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PENNSYLVANIA BOARD OF AGRICULTURE.

REPORT
OF THE
PENNSYLVANIA
GUENON COMMISSION.

Bldg.

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HARRISBURG.
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REPORT OF THE PENNSYLVANIA GUENON COMMISSION.

At the annual meeting of the Board held January 2, 1878, it was
"Resolved, That the president of the Board (His Excellency Governor John F. Hartranft) be authorized and requested to appoint a commission of experts, who shall inquire into and report upon the reliability of the Guenon or escutcheon theory for selecting milking stock; said report to be made to the secretary of the Board on or before the 1st of November next."

In accordance with this request, His Excellency Governor Hartranft issued the following commission:

COMMONWEALTH OF PENNSYLVANIA,
EXECUTIVE CHAMBER, HARRISBURG, April 24, 1878.

To GEORGE BLIGHT, Esq., of the city of Philadelphia; CHALKLEY HARVEY, Esq., of the county of Delaware, and WILLIS P. HAZARD, Esq., of the county of Chester:

GENTLEMEN: I have the honor to inform you that you have been duly appointed a committee by the State Board of Agriculture to investigate and test "The Guenon Milk Escutcheon Theory," and report the result thereof to the secretary of said Board.

JNO. F. HARTRANFT,
Governor and President of the Board.

November 1, 1878.

To the Honorable JNO. F. HARTRANFT,
Governor and President of the Board of Agriculture:

YOUR EXCELLENCY: In compliance with the commission tendered us, we beg leave most respectfully to report that we have visited a number of herds and have examined two hundred cows, the result of which is herewith submitted.

Having performed to the best of our ability the duty assigned us, we beg leave to be discharged from further consideration of the question.

Respectfully yours,

GEORGE BLIGHT, Philadelphia,
CHALKLEY HARVEY, Chad's Ford,
WILLIS P. HAZARD, West Chester.

The Pennsylvania Guenon Commission having been appointed "to investigate and test the Guenon or Milk Escutcheon theory, and report the result thereof," respectfully report that they have examined two hundred cows, heifers, and bulls, and the result of their examinations has been to convince themselves and others of the merits of the system, of its exceeding value to the practical farmer; and they believe that if generally followed for twenty years, the value of the neat cattle of the State would be increased vastly, the amount of milk and butter produced would be much larger, and the quality of both articles better, while the quality of the meat would be improved. Having believed in and practised the system

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for many years, they would add that their recent extended and careful examinations and contact with a number of owners of all grades of stock, has tended to confirm them more thoroughly in their belief. As an adjunct to previous knowledge to assist purchasers or breeders of cattle in getting or raising the best, and weeding out the poorest, they think it is worthy of being acquired by every farmer. And they would recommend their fellow farmers not to be dismayed at the apparent difficulties to be surmounted in obtaining a knowledge of the system, as it is only absolutely necessary to acquire a knowledge of the first four orders of each class, and a few other points, to practically apply it, as all animals below those grades are not worthy of being kept. Any intelligent man can readily master the system, and soon become proficient in it by practice. This knowledge, applied with the tests heretofore usually used, will enable any one to become a good judge of cattle.

The manner of making up their account of each animal is to examine the escutcheon and the udder, from which they place her in the class and order nearest to those delineated by Guénon, and then estimate the quantity, quality, and time that she will milk. These estimates must be, of course, only *approximate*, as they are based upon the indications of the escutcheon, the size of the cow, and her probable condition. As it is readily seen that where estimates are based upon what the cow should do *within three months of her being fresh*, it would be impossible to always grade the exact value of all the cows in a herd, each of which is at a different period of gestation, or in a different condition or state of health, and where also the cow is affected by the way in which she is fed and cared for, by the season, by the state of the temperature, and other circumstances. The estimates are based upon what the commission thinks the cow would do when all the conditions are favorable to her development, and where she is properly fed and cared for. A record is made by the commission on the spot. An account of the qualities of each head is drawn up by the owner. Each is made at separate times, and without the knowledge of the other party. Then the two accounts are copied off into parallel columns for comparison. If the accounts agree in seventy-five per cent. out of one hundred, it certainly must be presumed the system has sufficient value to make it worthy of adoption by all farmers and breeders. As every farmer knows the yield is much influenced by the feed, the care, the exposure, and the treatment of the cows; therefore, a certain amount of allowance must be made, for these various things will so alter matters, that no one can tell to a quart, or a pound of butter, or to the week in time of milking. In fact, every farmer knows neither the owner himself, nor his man, can tell to a quart how much his cow or cows actually give, unless a daily record is kept every day of every year. For even if he does keep such a record, he will find the various circumstances named above affecting the quantities in his record. Therefore the earnest seeker after truth, comparing the statements made in the two columns, must not expect the two to tally without some variations. The true spirit with which he must examine these statements, will suggest itself in the question: Is this a system by which I can judge of the value and quantities of a cow correctly? Is this a system that will tell me the points of a cow, good or bad, more correctly than by any other method? Let the candid inquirer weigh these statements, and think if he knows of any method by which he can go into a herd and surely pick out the best cows, and leave the poor ones to those who judge not by this system. Every farmer has his own mode of judging, but take the shrewdest and most practiced, can he avoid often the bastards? What the commission find they can do, is that in a large

majority of the percentage of cases, they will give a good estimate of the qualities of any animal. Their opinions of the time a cow will go, is based upon what they think should be the treatment of all cows, viz.: that every cow should have a rest of from four to six weeks, at least.

The Commission at Barney's Farm.

The members of the Guénon commission, visited the farm of John B. Barney, on the 9th of May, 1878, and examined twelve cows, mostly Grade Durhams, Grade Jerseys, and farm stock, and they were uniformly successful in judging of said stock, with some difference of opinion on two of them.

"I was present at the examination of twelve cows of my herd, and think the committee were so uniformly successful in judging of the merits of the different cows, with such slight variations of opinion between us, as to increase my belief in the Guénon system being of great advantage to the farmers in selecting stock.

JOHN B. BARNEY.

Chadd's Ford, Chester county."

May 16, 1877.

The Commission at Sharpless' Farm.

The commission visited the fine farm and herd of Jersey cows of Samuel J. Sharpless, at Street Road station, West Chester railroad, May 10. Present. Messrs. Harvey, Blight, Hazard, and Thomas J. Edge.

SAM'L J. SHARPLESS' HERD OF JERSEYS,
AS REPORTED BY E. J. DURNALL,
HERDSMAN FOR S. J. S., May 10, 1878.

- No. 1.—Seven years.
Quantity, about 12 quarts a day.
Quality, medium.
Milks about 10 months.
- No. 2.—Thirteen years.
Quantity, best. Gives 24 quarts 3 months
after calving.
Quality, second rate. Has made 11½
pounds in a week.
Milks full up to time, except when she
had twin calves.
- No. 3.—Eleven years.
Quantity, medium.
Quality, best.
Would go to her time.
- No. 4.—Eight years.
Quantity, medium.
Quality, good; makes about 10 pounds.
Up to her time.
- No. 5.—Imported. Eleven years.
Quantity, about 17 to 18 quarts a day.
Quality, best; makes 11 pounds per week.
Up to her time.
- No. 6.—Ten years.
Quantity, second rate.
Quality, medium.
About two months short of her time.
- No. 7.—Two years old. Had only first calf.
Quantity, medium.
Quality, good.
Not fairly tested for time.
- No. 8.—Four years.
Quantity, medium.
Quality, first class.
Up to calving.
- No. 9.—From Niobe Third. Three years.
Quantity, first rate.
Quality, first rate.
Up to her time.

SAM'L J. SHARPLESS' HERD AS REPORTED
UPON BY GUÉNON COMMISSION OF
THE STATE, MAY 10, 1878.

- No. 1.—Curveline cow, second order.
Quantity, if 14 quarts, doing well.
Quality, good.
Will milk ten months out of twelve.
- No. 2.—Flanders cow, third order.
Quantity, 16 quarts first three months.

Quality, third rate.

Dry two months.
- No. 3.—Flanders cow, third order.
Quantity, 12 quarts; three months.
Quality, very good and rich.
Dry six weeks.
- No. 4.—Flanders cow, second order.
Quantity, 14 quarts.
Quality, very fine.
Well up to her time.
- No. 5.—Selvage cow, first order.
Quantity, best; about 18 quarts.
Quality, no question.
Milks up to her time.
- No. 6.—Flanders cow, first order.
Superior milker.
Quality, second class.
Milks up to her time; say six weeks.
- No. 7.—Curveline cow, second order.
Quantity, medium.
Quality, too young for quality; say good.
Time, too young for test.
- No. 8.—Selvage cow, second order.
Quantity, medium.
Quality, good.
Up to her time; say six weeks.
- No. 9.—Flanders cow, second order.
Quantity, first class.
Quality, first class.
Well up to her time.

No. 10.—Imported. Four years. Had first calf at Centennial, in October, and made in seven days, 9 pounds 10 ounces. Quantity, about 16 quarts. Quality, excellent. Up to time. Has been milking two years.

No. 11.—Ten years. Quantity, second highest of herd; best. Quality, second class. Makes about 10 pounds.

Full up to her time.

No. 12.—Four years. Quantity, second rate. Quality, second rate; about 7 pounds. Milks to three months of her time.

No. 13.—Six years. Quantity, number one. Quality, number one. Full up to time. At seven months from calf gives 16 quarts.

No. 14.—Five years. Quantity, promises fair. Quality, good.

No. 15.—Four years. Of Niobe stock, the poorest.

Quantity, third rate; 6 quarts. Quality, good; second rate. Up to her time. Dropped her calf.

No. 16.—Quantity, number one. Quality, number one. Up to her time.

No. 17.—First calf. Quantity, number one. Quality, number one.

The commission and Mr. Durnall agree as to the best cow, selected from the first six on this list—on the one side by the marks, and on the other from his knowledge.

"Having compared the annexed account of the qualities of the seventeen cows of my herd, examined by the State Guenon Commission, with the originals of the accounts as given by both parties at separate times, and taken down upon the spot, I believe it to be a true and faithful transcript of the original record of the examination.

SAMUEL J. SHARPLESS."

PHILADELPHIA, May 20, 1878.

"I was present at the examination of Mr. Sharpless' herd of Jerseys, made on the 10th of May by the State Guenon Commission, and having examined the accounts of the herd given by me, as hereto annexed, with the original entries of those given by me, and also the accounts of the commission, with the original written opinions, do certify that the annexed are faithful transcripts of the records made by each party at separate times, and that the statements were unknown to each other.

E. J. DURNALL,

Herdsmen for Samuel J. Sharpless."

LENAPE FARM, May 20, 1878.

The Commission at Strode's Farm.

The members of the Guenon Commission visited the dairy farm of Marshall Strode & Son, who have a large butter factory, and are celebrated for their first-class butter, and they examined seventeen head of grade dairy stock, and according to the testimony of Mr. Strode, who accompanied them in their examination, were successful in judging according to the Guenon system, fifteen cows out of seventeen examined. Viewed May 10.

Present, Messrs. Harvey, Blight, Hazard, and Edge.

No. 10.—Decided to pass her.

No. 11.—Horizontal cow.

Quantity, first-class. Quality, inferior.

Milk up to eight months.

No. 12.—Flanders cow, third order.

Quantity, light. Quality, third class.

Three months short of her time.

No. 13.—Flanders cow, number two order.

Quantity, second class. Quality, first class.

Up to her time.

No. 14.—Flanders cow, first order.

Quantity, good. Quality, fair.

Within a month of her time.

No. 15.—Flanders cow, second order.

Quantity, about 12 quarts. Quality, not very fine.

No. 16.—Selvage cow, first order.

First class every way.

No. 17.—Flanders cow, second order.

Quantity and quality, fair.

"Having been present when the members of the Guenon Commission examined seventeen of our herd, and having witnessed the accuracy with which they determined the quality of the stock inspected, we bear testimony to the fact that their judgment was correct, according to our experience with the cows, in fifteen cases out of seventeen, and even in these two they were partially successful. And we are more confirmed in our previous belief in the value of the system, as we never buy a cow for a good one that is not well marked. We run a dairy of seventy-one cows.

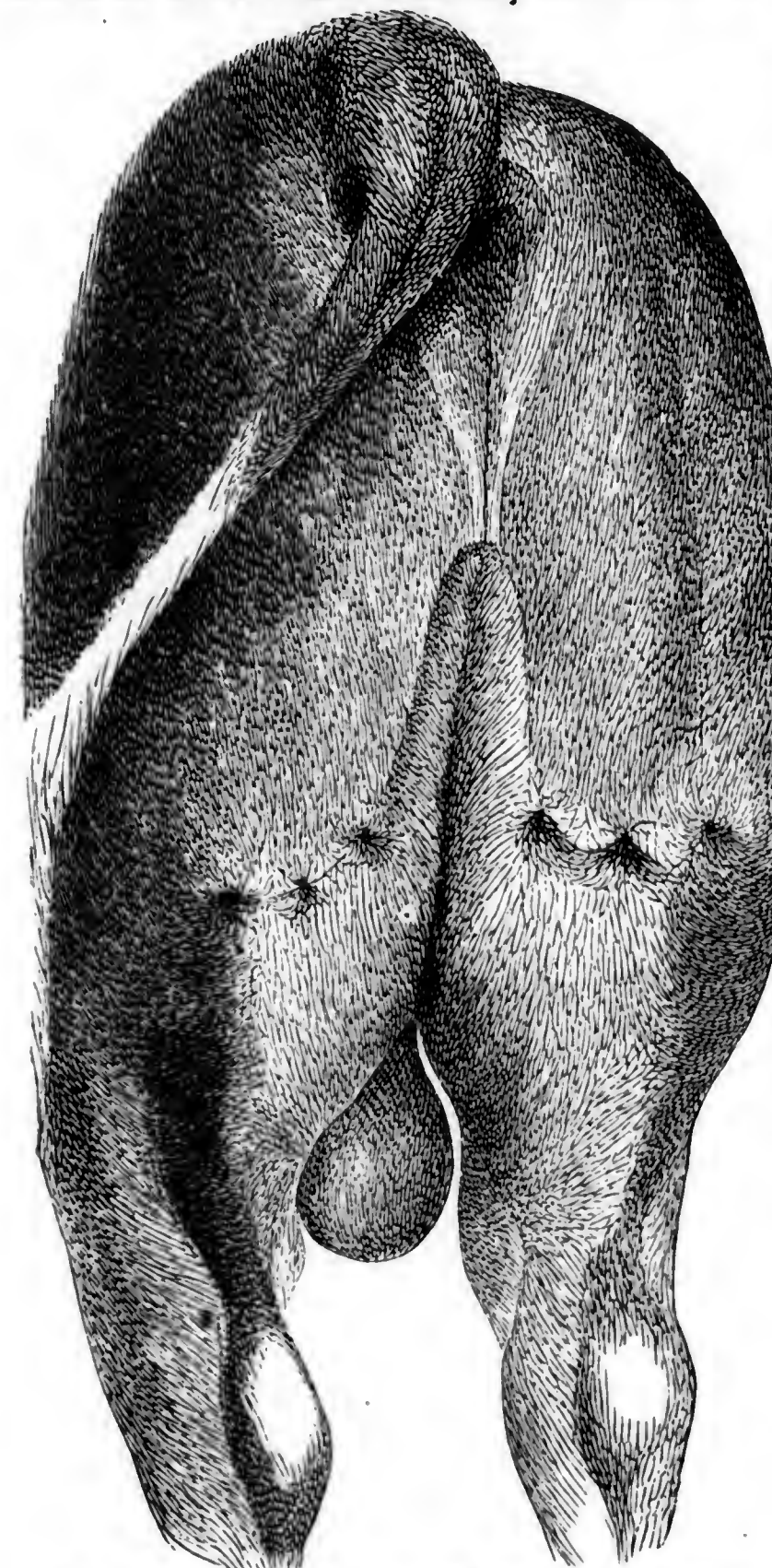
Yours truly,

MARSHALL STRODE & SONS."

EAST BRADFORD, May 15, 1878.

Examination of Thomas M. Harvey's Stock of Jerseys and Guernseys, May 11, 1878.*

This herd is one of the finest in the State. The cows are kept in good condition, and being well fed, the yield is very large per head. Their product is first class butter, and should bring the highest price in the market.



Escutcheon of Imported Guernsey Bull "Sir Champion."

by their owner, the commission judge that the number of quarts would be larger than usual.

*In this examination two cows which had already been examined and reported upon by the commission were, without their knowledge, afterwards brought up for another examination, in which their opinion as recorded, agreed almost exactly with the one previously recorded, thus affording a strong proof of the value of the system. See reports of No. 1, Betsy, and Nos. 4 and 20, Beauty. (Secretary of Board of Agriculture.)

The commission examined, in addition to the twenty-five cows on this list, Mr. Harvey's Guernsey imported bull "Sir Champion," which is thoroughly well marked; perhaps, the best marked bull in the country. The value of his get is, therefore, very decided. It shows most conclusively the importance of a bull from good milking stock, and that he should have a good escutcheon. The importance of a good sire to stamp his qualities upon his descendants was conclusively proved by Mr. Harvey's younger stock. The commission examined a young bull of seven months age, which was as perfectly and beautifully marked as his sire, and as nearly the same shape escutcheon as his sire's as could possibly be. Mr. Harvey has since sold him for \$100, to Colonel R. M. Hoe.

Nos. 9½ and 9¾ prove also the gain to a herd from a well marked bull. These were yearlings of Champion's get. No. 9½ was a great improvement upon the mother, No. 9, Carrie, of this list.

In the statements of the commission as to quantity, they have not mentioned the number of quarts, as the amounts given by most of this herd are superior to the generality, even of Guernseys; and, owing to good selection and careful handling

STOCK OF THOMAS M. HARVEY. THOMAS M. HARVEY'S STATEMENT.

No. 1.—BETSEY.

Quality, medium.
Quantity, 17 quarts.
Never dry.

No. 2.—NANCY.

Quality, first rate.
Quantity, 16 quarts.
Will milk up to calving.

No. 3.—CLAUDE.

Quality, first rate.
Quantity, at first, 18 quarts; but at six months, 8 quarts.
Not inclined to go dry altogether.

No. 4.—BEAUTY.—(Worth.)

Quality, first rate.
Quantity, 20 quarts.
Almost impossible to dry off.

No. 5.—ZILLA.

Quality, medium.*
Quantity, 18 quarts.
Never dry.

No. 6.—CHERRY.

Quality, good.

Quantity, 24 quarts.
Will milk on.

No. 7.—ECHO.

Quality, medium.
Quantity, 20 quarts.
Does not go dry.

No. 8.—MINNA.—Guernsey.

Quality, first rate.
Quantity, 17 quarts.
Not inclined to dry.

No. 9.—CARRIE.

Quality, first rate.
Quantity, 10 quarts.
Will go dry two months.

No. 10.—GENTLE.—Jersey.

Quality, first rate.
Quantity, 20 quarts.
Dry two months.

No. 11.—MARY.—Grade, Durham.

Quality, medium.
Quantity, 18 quarts.
Dry two months.

No. 12.—EUGENIE.—Jersey.

Quality, medium.*
Quantity, 18 quarts.
Does not dry.

No. 13.—VICTORIA.—Guernsey.

Quality, medium.*
Quantity, 20 quarts.
No drying.

No. 14.—JENNIE.

Quality, good.
Quantity, 20 quarts.
One month dry.

STOCK OF THOMAS M. HARVEY. OPINION OF THE GUENON COMMISSION.

No. 1.—BETSEY.—Jersey. Curveline,

No. 1.

Quality, first rate.
Quantity, first rate.
Time of milking; up to her time.
Second examination confirmed.

No. 2.—NANCY.—Guernsey. Flanders

No. 2.

Quality, first rate.
Quantity, first rate.
Six weeks.

No. 3.—CLAUDE.—Guernsey. Curveline,

3d.

Quality, first-class for rich milk.
Quantity, not large.
Dry three months.

No. 4.—BEAUTY.—(Worth.) Curveline,

1st.

Quality, first class.
Quantity, large.
Close to time.
Reexamined—See report No. 20.

No. 5.—ZILLA.—Guernsey grade.

Imperfect Selvage of low order. Irregularly marked.
Will milk well for few months only.
A good shaped cow.

No. 6.—CHERRY.—Half Jersey.

Good milk.
Milks profusely, and keeps herself thin on account of it.

No. 7.—ECHO.—Grade, Jersey. Selvage,

2d.

Quality, medium.
Quantity, medium.
Milks up pretty well.

No. 8.—MINNA.—Guernsey. Curveline,

2d.

Quality, good.
Quantity, good milker until within two months of calving.

No. 9.—CARRIE.—Strangely and imperfectly marked.

Quality, good.
Quantity, poor.
Dry up soon.

No. 10.—GENTLE.—Jersey. Selvage, 1.

Quality, first rate.
Quantity, large.
Dry six weeks.

No. 11.—MARY.—Grade, Durham. Flanders, 1.

Quality, first class.
Quantity, good.
Dry six weeks.

No. 12.—EUGENIE.—Jersey. Curveline, 2d.

Quality, first rate.
Quantity, large.
Dry two months.

No. 13.—VICTORIA.—Guernsey. Selvage.

Quality, medium.
Quantity, good while she milks.
Dry two months.

No. 14.—JENNIE. Ordinary stock.

Quality, not very rich, but good.
Quantity, good.
Dry two months.

No. 15.—MAGGIE, 2d.—Young.

Quality, medium.*
Quantity, 10 quarts.
Dry two months.

No. 16.—ROCKET.

Quality, medium.
Quantity, 15, 20, to 25 quarts; variable.
Dry three months.

No. 17.—AMY.

Quality, good.*
Quantity, 14 quarts.
Ten weeks dry.

No. 18.—COMLY.

Quality, first rate.
Quantity, 15 quarts.
Dry two months.

No. 19.—KITTY.

Quality, first rate.
Quantity, 16 quarts.
Dry six weeks.

No. 20.—BEAUTY.

Second examination.
See No. 4.

No. 21.—ROSETTA.—Guernsey, imported.

Quality, first rate.*
Quantity, 18 quarts.
Does not go dry.

No. 22.—DUCHESS.—Guernsey.

Quality, first rate.
Quantity, 20 quarts.
Don't go dry.

No. 23.—BRIDGET.—Guernsey grade.

Quality, first rate.
Quantity, 14 to 18 quarts.
Fails when pregnant. Does not dry altogether.

No. 24.—FANCY.—Guernsey.

Quality, medium.
Quantity, 16 quarts, and fails fast.
Dry three months.

No. 25.—DAFFY.—Grade, Durham.

Quality, medium.
Quantity, 22 quarts.
Does not dry.

No. 15.—MAGGIE, 2d.—Guernsey. Flanders, 3d.

Quality, very good.
Quantity, medium and continuous.
Dry two months.

No. 16.—ROCKET.—Grade, Jersey. Curveline, 2d.

Quality, rich.
Quantity, good.
Dry two months.

No. 17.—AMY.—Kentucky Short-Horn.

Quality, medium.
Quantity, poor.
Dry three months.

No. 18.—COMLY.—Guernsey. Selvage, 3d.

Quality, first rate.
Quantity, good and continuous.
Dry six weeks.

No. 19.—KITTY.—Guernsey and Jersey grades. Bicorn, 2d.

Quality, first class.
Quantity, first rate.
Milks well up.

No. 20.—BEAUTY.—Guernsey. Curveline, 1st.

Quality, first class.
Quantity, first class. Milks well up.
This is the second examination.
See No. 4.

No. 21.—ROSETTA.—Guernsey, imported. Flanders.

Quality, excellent.
Quantity, fair milker.
Dry two months.

No. 22.—DUCHESS.—Guernsey, imported. Curveline, 2d.

Quality, medium.
Quantity, large.
Dry two months.

No. 23.—BRIDGET.—Guernsey grade. Selvage, 4th.

Quality, good.
Quantity, poor.
Dry three months or ten weeks.

No. 24.—FANCY.—Guernsey. Selvage.

Quality, medium.
Quantity, poor.
Dry two months.

No. 25.—DAFFY.—Grade, Durham. Flanders, 1st.

Quality, good.
Quantity, about 24 quarts.
Milks her full time.

In the above account will be noticed a few with the mark * which Mr. Harvey said indicates that the amount of milk given and the quality was largely increased by extra feeding.

"I was present at the examination of our herd of Guernseys, Jerseys, and grades, by the Guenon Commission, on the eleventh of fifth month, 1878, and I have examined their report and compared it with the originals written on the spot, (the contents of which were before now unknown to me,) and I testify to the annexed report being an accurate copy of the opinions recorded by them at the time of examination. The statements made by me were handed to members of the commission on twenty-first instant, and are as nearly accurate as my own knowledge, and that of the persons who had the immediate care of the herd, and an interest in the proceeds of the dairy, could make them.

THOS. M. HARVEY."

WEST GROVE, 27th of 5th month, 1878.

"Having had the immediate care of the herd of Thomas M. Harvey, and an interest in the proceeds of the dairy for six years, and being well acquainted with the merits of each member of the herd, I can certify that the statements we have made to the

Guenon Commission are correct to the best of our knowledge and belief, and were made more than a week after the commission had recorded their opinions; which opinions were unknown to us until the present time. I have also compared the record of opinions herewith with the originals, and find them to be a correct transcript of them.

CLARKSON MOORE."

"Having had the immediate care of the herd within alluded to, and an interest in the proceeds thereof for the past eleven months, I can certify that I united with Clarkson Moore in making the statement relative to the quality and productiveness of the cows examined by the Guenon commission. I was from home when they were here, and knew nothing of their opinions when we made up our statement.

ZEBEDEE HAINES."

Fifth month, 28th, 1878.

"I was present on Saturday, March 11, 1878, at the farm of Thomas M. Harvey, when the examination of that portion of his herd was made by the Guenon Commission, from Nos. 10 to 25, inclusive, of their report. I have compared the original recorded opinions of the commission with the report herewith, and find the latter correct.

N. J. SHARPLES,

President of the Experimental Farm Club."

Examination of William M. Large's Herd, Chestnut Grove, Doylestown, Bucks County.

The commission, as represented by George Blight and Willis P. Hazard, visited the beautiful farm of William M. Large, on the afternoon of May 31—on a very rainy, unpleasant day, and making the examination of stock a very difficult duty. The stock is a valuable one of thorough-bred and grade Short-Horns and is well fed and otherwise well cared for.

WM. M. LARGE'S ACCOUNT OF HIS HERD. OPINIONS OF THE STATE GUENON COMMISSION.

No. 1.—VICTORIA.

Quantity, 18 quarts.
Never tried her on butter but once, then made 10½ pounds.

Goes dry two months to ten weeks.

No. 2.—JOSEPHINE.

The Doylestown Agricultural Society offered a premium of \$25 for the cow that yielded the most butter; and also \$25 for the cow that gave the most milk. The largest yield for a single week 16 pounds 3 ounces. Was tried five times during the year, two months apart; taking the average of the five consecutive trials, would make a trifle over 500 pounds. Awarded the first premium for butter, and second for milk.

Lost the record of pounds of milk.
Dry about one month.

No. 3.—FANNY FERN.

Quantity, nineteen quarts.
Quality, never tried her butter production.

Goes dry five or six weeks.

No. 4.—LETTIE.

Quantity nine quarts.
Quality, never tried her butter qualities, but her milk is rich and good.

Goes dry about three months.

No. 5.—NORAH.

Quantity, fresh, gives seventeen quarts; holds to it well.
Quality, has made 10 pounds butter in a week.

Goes dry about two months.

No. 1.—VICTORIA.—Short-Horn. Flanders, first order.

Quantity, about eighteen quarts.
Quality, good.

Up to her time—say one month.

No. 2.—JOSEPHINE.—Thorough-bred Short-Horn. Flanders, second order.

Quantity, eighteen quarts.
Quality, very good.

About one month dry.

No. 3.—FANNY FERN.—Flanders, first order.

Quantity, twenty quarts.
Quality, first rate.

About up to time, (one month.)

No. 4.—LETTIE.—Selvage, fifth order.

Quantity, eight quarts.
Quality, second rate.

Dry four months.

No. 5.—NORAH.—Flanders, imperfect.

Quantity, eighteen quarts.

Quality, good.

Dry three months.

No. 6.—LUCY.

Quantity, thirteen quarts.

Quality, a less number of pounds will make a pound of butter than most of my other cows; think her milk extra good.

Dry some two months.

No. 7.—BERNICE.

Quantity, when fresh, about twelve quarts.

Quality, never tried her butter production.

Goes dry some three months, and has the credit of being the poorest cow in the herd.

No. 8.—JOSEPHINE 2d.—First calf.

Quantity, first calf, eleven quarts.

Quality, never weighed her milk or tried her butter production.

Cannot tell how long she will go dry.

No. 9.—JUDITH.

Quantity, seventeen quarts.

Quality, on a trial after her first calf was taken away, made 2 ounces less than 8 pounds of butter, done up in lumps for market.

Goes dry six or seven weeks.

No. 6.—LUCY.—Flanders, fourth.

Quantity, fourteen quarts.

Quality, good, very.

Dry three months.

No. 7.—BERNICE.—Flanders, second.

Quantity, twelve quarts.

Quality, good.

Time, eight months out of twelve.

No. 8.—JOSEPHINE 2d.—Curveline, third.

Quantity, ten to twelve quarts.

Quality, rich.

Goes to two months of her time.

No. 9.—JUDITH.—Flanders, first.

Quantity, eighteen quarts.

Quality, good.

Well up to her time (one month or six weeks.)

"Having been present at the examination of my herd of Short-Horns, by the State Guenon Commission, May 31, 1878, I certify this report is a correct copy of the original records made on the spot, and at separate times; neither party having knowledge of the other's accounts.

WILLIAM M. LARGE."

CHESTNUT GROVE, 7th month, 8d, 1878.

Report of the Examination of the Stock of Eastburn Reeder, of Rabbit Run Stock Farm, New Hope, Bucks County, Pa.

The commission visited the farm of Eastburn Reeder on Saturday, June 1, and examined his stock of Jersey and Guernsey breeds in presence of the proprietor and a number of members of the Solebury Farmers' Club. Mr. Reeder's account of his herd had been drawn up and placed in the hands of J. S. Williams, Esquire, secretary of the Solebury Farmers' Club, some ten days before the visit of the commission, and is printed herewith.

The commission was represented by George Blight and Willis P. Hazard, and part of the time by Captain J. C. Morris, of Susquehanna county, at the request of Thomas J. Edge, secretary of the State Board.

Mr. Reeder, not having made in his report any statements of the quality of the milk, except as regards the yield in butter, has sent the commission the following condensed statement of what each cow gave on May 20:

No. 1, Belle, ...	10 quarts.	No. 7, Florentia, ...	10 quarts.
No. 2, Topsy, ...	14 "	No. 8, Paunacussing, ...	8 "
No. 3, Firefly, ...	12 "	No. 9, Lady Delaware, ...	6 "
No. 4, Isabelle, ...	8 "		
No. 5, Marian, ...	14 "	Total for nine cows, ...	94 "
No. 6, Urania, ...	12 "		

Yield of the herd, May 20, ... 94 quarts.

Yield of the herd in seven

days, ... 658 "

Butter in seven days, ... 67 pounds.

Quantity of milk to one pound

of butter, ... 9½ qts.

This statement of the number of quarts required to make a pound of butter from Jersey and Guernsey stock, it will be seen, carries out the conclusions of the commission, who estimated the quality of this herd, as

well fed and not too long milked stock of these breeds should give a pound of butter to every nine quarts of milk.

"Having been present at the examination of my herd by the State Guenon Commission, on Saturday, June 1, 1878, and having since examined their report by the original record made on the spot by them, and compared it with my account of the herd, handed to Mr. J. S. Williams, May 21, or more than one week before they made the examination, I do certify that the accompanying report is correct and true.

EASTBURN REEDER,
New Hope, Bucks county, Pa."

RABBIT RUN FARM, June 15, 1878.

"I certify that Eastburn Reeder handed me his account of his herd ten days before the examination was made by the State Guenon Commission; that I was present with others at the examination; that the two reports were compared in the presence of a number, shortly after the examination, and were generally satisfactory; and that I have now examined the accompanying reports by the two original records, made at separate times as above mentioned, and have found them correct and true copies of said original records.

J. S. WILLIAMS,
Secretary of the Solebury Farmers' Club."

June 15, 1878.

Examination of Eastburn Reeder's Herd.

ACCOUNTS OF THE HERD BY EASTBURN REEDER.

No. 1.—BELL.—Age, 12 years. Grade, Alderney. Calved November 10, 1877. Greatest yield when fresh, 16 quarts per day. Yield May 20, 1878, 10 quarts per day. Butter, 8 pounds in seven days. Tried February, 1875. Milks to one month of calving.
No. 2.—TOPSY.—Age, 10 years. Guernsey. Calved March 9, 1878. Greatest yield when fresh, 18 quarts. Yield May 20, 1878, 14 quarts. Made 12 pounds in seven days. Tried June, 1872. Goes dry three months before calving.
No. 3.—FIREFLY, (1133.)—Age, 8 years. Jersey. Calved October 28, 1877. Greatest yield when fresh, 14 quarts. Yield May 20, 1878, 12 quarts. Averaged 6 pounds butter for forty weeks, from Sept. 1, 1872, to June 8, 1873. Greatest yield of butter in any one week since, 10½ pounds.

Never goes dry; has been milked regularly since August 27, 1872.

No. 4.—ISABELLE, (1935.)—Age, 6 years. Jersey. Calved September 19, 1877. Greatest yield when fresh, 12 quarts. Yield May 20, 1878, 8 quarts. Made 9 pounds butter in seven days. Tried October, 1877. Milks to one month of calving.

No. 5.—MARIAN.—Age, 6 years. Guernsey. Calved February 15, 1878. Greatest yield when fresh, 14 quarts. Yield May 20, 1878, 14 quarts. Butter never been tested.

Milks to within one month of calving.
No. 6.—URANIA, (2793.)—Age, 5 years. Jersey. Calved January 30, 1878. Greatest yield when fresh, 12 quarts. Yield May 20, 1878, 12 quarts. Butter never been tested. Milks to one month of calving.

OPINIONS OF THE HERD BY THE GUENON COMMISSION.

No. 1.—BELL.—Grade, Alderney. Flanders, 2d. Quantity, 18 to 20 quarts.

Quality, fair.
Dry three to four months.

No. 2.—TOPSY.—Guernsey. Curveline, 2d. Quantity, 16 to 18 quarts.

Quality, first rate.
Dry two months.

No. 3.—FIREFLY.—Jersey thorough-bred. Demijohn, 2d. Daughter of Niobe, 3d. Quantity, 12 to 14 quarts.

Quality, medium.
Dry two months.

No. 4.—ISABELLE.—Jersey thorough bred. Flanders, 3d. Quantity, 16 quarts.

Quality, first rate.
Dry one month.

No. 5.—MARIAN.—Guernsey. Curveline, 3d. Quantity, 16 quarts.

Quality, first rate.
Dry two months to three months.

No. 6.—URANIA.—Jersey thorough-bred. Selvage, 2d. Quantity, 14 quarts.

Quality, second rate.
Dry one month.

No. 7.—FLORENTIA, (3518.)—Age, 4 years. Jersey. Calved January 1, 1878. Greatest yield, 10 quarts. Yield May 20, 10 quarts.

Butter never been tested.
Milks to one month of calving.

No. 8.—PAUNACUSSING, (5030.)—Age, 2 years. Jersey. Calved October 30, 1877. Yield, May 21, 1878, 8 quarts.

Duration yet to be ascertained.

No. 9.—LADY DELAWARE, (5051.)—Age, 2 years. Thorough-bred Jersey. Calved January 3, 1878. Yield May 21, 1878, 6 quarts.

Duration yet to be ascertained.

No. 7.—FLORENTIA.—Jersey thorough-bred. Curveline, 2d. Quantity, 12 quarts.

Quality, second rate.
Dry one month.

No. 8.—PAUNACUSSING.—Jersey thorough-bred. Selvage, 2d. Quantity, 12 quarts. Quality, medium.

Dry two months, probably.

No. 9.—LADY DELAWARE.—Jersey thorough-bred. Flanders, 3d.

Quantity, only milks out of two teats. Quality, medium.
Dry three months, probably.

Examination of Moses Eastburn's Cow, Beauty.

ACCOUNT OF MOSES EASTBURN.

Cow, BEAUTY.—Age, 9 years. Calved March 20, 1878. Greatest yield of milk per day about 17 or 18 quarts. Yield May 24, 1878, 16 quarts. Duration of yield of milk, ten months. Quality of milk, 9 quarts to make a pound of butter. Butter made in eight and a half months, 302½ pounds.

OPINIONS OF THE COMMISSION.

BEAUTY.—Jersey. Curveline, 2d.

Quantity, 18 quarts.

Quality, first class.

Time, well up to her time.

"This is to certify that I was present at the examination of my cow, Beauty, this first of sixth month, 1878, by the committee to test the Guenon system, and find their report to correspond with the within statement.

MOSES EASTBURN."

SOLEBURY, BUCKS COUNTY.

Examination of Colonel James Young's Herd, at Middletown.

The Commission visited the large farms of Colonel James Young, near Middletown, and examined thirty-seven head of cows and heifers, among which were some of the finest Jersey cows in the State. His whole stock is well-fed and cared for, and are in fine condition. He supplies Middletown with the best of milk. Colonel Young does not keep a record of the performances of his cows, and the commission were therefore obliged to examine the cows, and after making their record, to compare it, item by item of each cow separately, with the knowledge of them had by his very intelligent dairy-woman, who has charge of the cows and the milk, and knows their characters as milk and butter producers well; also has a record of the times of calving of all the cows. The estimates of the commission agreed with hers, on all the hundred and eleven points, except nine points, and where they differed, that difference was in two cases on the quality, and in the other cases on the time. The commission attribute their unanimity on this herd, to the careful selection and breeding of Colonel Young, to his good feeding, and the excellent care that the animals have. These points constantly looked after, maintain the excellence of the herd, and as a consequence the escutcheons correspond, for, as the colonel says, "he never saw a good escutcheon without being on a good animal, and never saw a good animal without a good escutcheon."

MIDDLETOWN, November 1, 1878.

"We were present when the commission visited our farms, and examined the stock, and we think they judged rightly of it, in nearly every case—we should say within five per cent. of being entirely correct.

We have examined the account to be printed with the original record, and find it to be correct and corresponding.

JAMES YOUNG,
JAMES S. YOUNG."

Examination of the Herd of William Calder, Esq., Harrisburg.

The commission visited one of the farms of William Calder, near Harrisburg. This gentleman has seven farms, containing nine hundred acres, and keeps a variety of stock. On the farm visited, near the reservoir, the commission examined eight head of grade stock, in very good order, on good September pasturage. The dairyman, a very intelligent man, had no record of the exact quantity and quality of the stock, but, as he milked them himself, a knowledge of their general qualities; and upon hearing the decision of the commission upon each cow, assented to the character given of all of them, except on two points: on one as to yield, and on another as to time. It was pleasing to notice the surprise and delight expressed by him at the exhibition, of entire strangers to the herd, of such accurate knowledge of them as the system showed it could give. And he determined to acquire it forthwith.

The commission saw a very fine black grade cow, with the calf by her side a perfect specimen of the Belted stock, though sired by a thoroughbred Jersey bull—to be accounted for only by the fact that the cow had been served by a Belted bull the third time before this one.

Examination of Several Herds near West Grove, Blanketed and Unblanketed, under the Supervision of a Committee of the Experimental Farm Club.

It had been stated by some that the commission used the ordinary means of judging of the value of cows, in addition to the Guenon tests. This was, of course, entirely denied by the commission; and as it was repeated in the public print, the commission, to settle the matter in the minds of candid men, offered to have any number of cows blanketed, so that only their posteriors could be seen, and then judge of their escutcheons, provided a committee should be present at the examination, view it closely, and give a report. Thus pressed, the challenge was accepted, and there was appointed a committee of five of some of the best farmers and dairymen residing near the Experimental farm. It was also understood that any could attend who wished to, and on the day of the examination three of the committee were present, as well as a number of other farmers. The commission examined the first five in the stable, blanketed, then two unblanketed, then two blanketed, and the remaining four unblanketed. The report of this committee is appended herewith. The cows were examined on a farm of Thomas Gawthrop, near West Grove. Afterward a number of cows were examined on several farms in the neighborhood, in the presence of the committee. No longer time was required to form an opinion on the blanketed cows than on the others, and the comparative results can be judged from the accompanying tables.

The commission met them on the day appointed, at the farm of Thomas Gawthrop, and in the presence of the committee (three being present,) and of others, examined seven cows blanketed, and would have examined more, but the committee said it was useless, as they could see, and had full faith that only the escutcheon was considered by the commission. On this farm thirteen head were examined, and the results are herewith given. All then adjourned to the farms of Mark Hughes, Howard Preston, and Everard Conard, and examined other stock in the presence of the committee. The committee's report will be found annexed, thus setting to rest the charge that the commission were examining by any other than the Guenon test.

THOMAS GAWTHROP'S ACCOUNT OF COWS EXAMINED AT THOMAS GAWTHROP'S FARM, SEPTEMBER 20.

- No. 1.—VICTORIA.—Grade, Jersey and Durham.
Quantity, first.
Quality, first.
A first-class butter cow, and milks well up to time.
- No. 2.—CECIL.—Grade, Jersey.
Quantity, first.
Quality, first. First-class for butter.
Milks up to time.
- No. 3.—NELLIE.
Quantity, second.
Quality, second.
Dry from ten to twelve weeks.
- No. 4.—LUCY.—Recently purchased.
Yields three months from calving thirteen quarts.
Quality, first.
- No. 5.—LILY.—Grade, Jersey.
Quantity, second.
Quality, first.
Milks up to time.
- No. 6.—BEAUTY.—Jersey.
Yields fourteen quarts per day.
Quality, first.
Milks to within eight weeks of calving.
- No. 7.—DARBY.—Jersey.
Quantity, fourteen quarts per day.
Quality, first.
Almost impossible to turn dry, though never excelling in quantity.
- No. 8.—STAR.—Grade, three quarter Jersey.
Yield with first calf from twelve to fourteen quarts per day, and milks well up to time.
Quality, first class.
- No. 9.—NORAH.
Quantity, first.
Quality, first.
Dry from eight to ten weeks.
- No. 10.—SALLIE.†
Quantity, second.
Quality, second.
Goes dry eight weeks.
- No. 11.—DIDO.‡—Grade.
Quantity, twenty quarts.
Second in quality.
Dry from eight to twelve weeks.
- No. 12.—MOLLY.‡
Yields about sixteen quarts per day.
Second-class quality.
Dry from eight to twelve weeks.
- No. 13.—WHITEFACE.‡
Second-class in quantity, fifteen quarts per day.
Second quality.
Dry about ten weeks.

THE GUENON COMMISSION'S ACCOUNT OF COWS EXAMINED AT THOMAS GAWTHROP'S FARM, SEPTEMBER 20.

- No. 1.—VICTORIA.*—Grade, Jersey and Durham. Eight years.
Quantity, first.
Quality, first.
Up to her time.
- No. 2.—CECIL.*
Quantity, first.
Quality, first.
Short eight weeks.
- No. 3.—NELLIE.*—Demijohn, 1.
Quantity, second.
Quality, first.
Short eight weeks.
- No. 4.—LUCY.*—Flanders, 2d.
Quantity, second.
Quality, first.
Up to her time.
- No. 5.—LILY.*—Grade, Jersey. Flanders, 2d.
Quantity, second.
Quality, first.
Dry four to six weeks.
- No. 6.—BEAUTY.—Jersey. Five years old.
Quantity, third.
Quality, second.
Dry two months.
- No. 7.—DARBY.—Jersey. Flanders, 2d.
Quantity, second.
Quality, first.
Dry four weeks.
- No. 8.—STAR.†—Grade, three quarter Jersey. Flanders, 3d.
Quantity, second.
Quality, first.
Dry six weeks.
Her Jersey blood helps to overcome some blemishes on her escutcheon.
- No. 9.—NORAH.†—Grade.
Quantity, first.
Quality, first.
Up to her time.
- No. 10.—SALLIE.—Grade. Twelve years.
Flanders, 2d.
Quantity, 2d.
Quality, second.
Up to her time.
- No. 11.—DIDO.—Grade. Left Flanders.
Quantity, first.
Quality, second.
Dry three months.
- No. 12.—MOLLY. Imperfect Flanders.
Quantity, second.
Quality, second.
Dry ten weeks.
- No. 13.—WHITEFACE.—Grade. Curve-line, 3d.
Quantity, third.
Quality, second.
Dry ten weeks.

*These five cows were so blanketed, as to show only the escutcheon.

†These cows were also blanketed.

‡The last four animals were not blanketed, but were driven up and examined by the commission without any apparent reference to any marks, except the escutcheon. T. G.

MARK HUGHES' ACCOUNT OF HIS COWS,
SEPTEMBER 20.

No. 1.—LACTE.

Do not know the quantity of milk and butter per week, but gives very rich milk, and milks up to calving.

No. 2. LAURA.

Quantity, twenty-four quarts milk per day.

Quality, sixteen pounds butter week. Has never been dry; begins to increase in milk about three weeks before calving, and cannot be turned dry.

No. 3.—TOPSY.

Quantity, twenty quarts milk per day. Quality, makes thirteen pounds butter per week.

Will milk up to calving.

HOWARD PRESTON'S ACCOUNT OF HIS
COWS.

No. 1.—Grade Durham.

Quantity, second.
Quality, second.
Milks up to her time.

No. 2.—Grade Durham.

Quantity, second.
Quality, second.
Dry ten weeks.

No. 3.—Common stock.

Quantity, second.
Quality, second.
Dry eight to ten weeks.

No. 4.—Grade Durham.

Quantity, third.
Quality, second.
Dry ten weeks.

No. 5.—Common stock.

Quantity, second.
Quality, second.
Dry three months.

No. 6.—Grade Durham.

Quantity, second.
Quality, second.
Dry eight weeks.

No. 7.—Grade Durham.

Quantity, second.
Quality, third.
Dry ten weeks.

No. 8.—NELLY.—Grade Jersey.

Quantity, second.
Quality, second.
Dry eight weeks.

No. 9.—JESSIE.—Grade Jersey.

Quantity, second.
Quality, second.
Milks up to time.

No. 10.—POLLY.—Grade Jersey.

Quantity, first.
Quality, first.
Milks up to her time.

No. 11.—LILY.—Common stock.

Quantity, first.
Quality, first.
Dry eight weeks.

COMMISSIONS ACCOUNT OF MARK
HUGHES' COWS.

No. 1.—LACTE.—Jersey thorough-bred.

Flanders, second.
Quantity and quality, first rate.

Milks close to calving.

No. 2.—LAURA.—Jersey thorough-bred.

Demijohn, 1st.
Quantity, first rate.

Quality, first class.

Milks up to calving.

No. 3.—TOPSY.—Grade, Jersey. Ten years.

Curveline, 1st.
Quantity and quality, first rate.

Milks up to calving.

GUENON COMMISSION'S ACCOUNT OF
HOWARD PRESTON'S COWS, SEPTEMBER 20.

No. 1.—Flanders, 2d.—Grade Durham.

Quantity, second.
Quality, second.
Up to time.

No. 2.—Left Flanders.—Grade Durham.

Quantity, second.
Quality, second.
Dry two months.

No. 3.—Gradestock.—Imperfect Flanders.

Quantity, third.
Quality, second.
Dry eight weeks.

No. 4.—Grade Durham.—Selvage, 2d.

Quantity, second.
Quality, second.
Dry ten weeks.

No. 5.—Native stock.—Flanders, 3d.

Quantity, second.
Quality, third.
Dry three months.

No. 6.—Grade Durham.—Flanders, 3d.

Quantity, third.
Quality, third.
Dry six to eight weeks.

No. 7.—Grade Durham.—Bicorn, 3d.

Quantity, third.
Quality, second.
Time, eight weeks.

No. 8.—NELLY.—Grade Jersey.—Flanders, 2d.

Quantity, second.
Quality, second.
Time, eight weeks.

No. 9.—JESSIE.—Grade Jersey.—Selvage.

Quantity, second.
Quality, first.
Up to time.

No. 10.—POLLY.—Grade Jersey.—Flanders, 2d.

Quantity, second.
Quality, second.
Up to time.

No. 11.—LILY.—Native stock.—Flanders, 2d.

Quantity, first.
Quality, first.
Dry four to six weeks.

No. 12.—BLUSH.—Grade Jersey.

Quantity, first.
Quality, first.
Dry six weeks.

No. 13.—TOPSY.—Grade Jersey.

Quantity, second.
Quality, second.
Dry three months.

No. 14.—BONNIE.—Common stock.

Quantity, first.
Quality, first.
Milks up to her time.

No. 15.—DAISY.—Common stock.

Quantity, third.
Quality, second.
Dry three months or more.

No. 16.—KATIE.—Common stock.

Quantity, third.
Quality, second.
Dry six weeks.

JOSEPH PYLE'S STATEMENT OF HIS
COWS:

No. 1.—FAWN.

Quantity, 10 to 15 quarts.
Quality, very rich milk.
Dry from four to six weeks.

No. 2.—FANCY.

Quantity, 16 to 18 quarts.

Quality, milk very good quality. Falls off sooner than most cows, and will go dry eight weeks.

This cow had been previously examined, May 11, at Thos. M. Harvey's farm. Mr. Harvey had since sold her to Mr. Pyle. The following are the two statements at that time:

T. M. HARVEY:
Quality, medium.
Quantity, 16 quarts and fails fast.
Dry three months.

No. 12.—BLUSH.—Grade Jersey. Curve-line, 2d.

Quantity, second.
Quality, second.
Dry six weeks.

No. 13.—TOPSY.—Imperfect Curveline.—Grade Jersey.

Quantity, third.
Quality, second.
Dry three months.

No. 14.—BONNIE.—Flanders, 1st.—Native stock.

Quantity, first.
Quality, second.
Up to her time.

No. 15.—DAISY.—Flanders, 3d.—Native stock.

Quantity, third.
Quality, second.
Dry six weeks.

No. 16.—KATIE.—Flanders, 2d.—Native stock.

Quantity, second.
Quality, second.
Dry four to six weeks.

GUENON COMMISSION'S ACCOUNT OF
JOSEPH PYLE'S COWS:

No. 1.—RED GRADE COW—8 years.—Flanders, 2.

Quantity, 14 or 15 quarts.
Quality, second.
Dry about ten weeks.

No. 2.—FANCY.—Guernsey. Flanders, 3.

Quantity, 18 quarts when fresh, and will begin to reduce and stop two months short of her time.

Quality, first.
Will go two months dry.

GUENON COMMISSION:
Quality, medium.
Quantity, poor.
Dry two months.

COMMISSION'S ACCOUNT OF MILTON E. CONARD'S COWS:

No. 1.—LILY.—Grade, Guernsey. Bicorn, 1.

Quantity, about 20 quarts.
Quality, first.
Milks up to her time.

No. 2.—FLOYD.—Flanders, 1.

Quantity, 18 quarts.
Quality, very good.
Milks up to her time.

This is a very correct description of my cows, Lily and Floyd.

M. E. CONARD.

The above examination of our herds of cows, some of which were covered by a large blanket, completely excluding from view every part of the animal except the escutcheon and back part of udder, subjected the commission to the severest test that could be applied; and agreeing, as their estimate of quality and quantity does, with our previously written reports, leads us to think that in the hands of experts it would be a valuable aid in judging the quality of dairy stock.

THOMAS GAWTHROP,
EVERARD CONARD,
HOWARD PRESTON,
MARK HUGHES,
Committee.

WEST GROVE, 11 month 7, 1878.

The undersigned having been present at the examination of Thomas Gawthrop's herd of dairy cows, by the Guenon commission, on the 2d day of 9 month, 1878, am free to say that, although most of the cows were blanketed from horns to tail, their estimate, in a great majority of them, very nearly corresponded with the owners account previously prepared.

M. E. CONARD.

WEST GROVE, PA., 11 month 7, 1878.

Joseph Pyle would have signed had he been present at the examination. Expresses confidence in the system.

T. G.

Examination of J. & J. Darlington's Cows, October 2d.

The commission visited the herds of Messrs. J. & J. Darlington, October 2, at Darlington station, on Westchester road, Delaware county. These gentlemen make the finest butter and get the largest price in the market. Their dairy is admirably arranged. They have farms of four hundred and eighty acres, and have a herd of one hundred and sixty-seven cows. They had selected about a fair sample of the herd in two lots of cows. The first lot, from No. 9 to 33, was on one farm, and those numbered from 1 to 14 on the other farm. These gentlemen kept no test of the quality of any cow's milk, and have no exact record of the quantity given by any cow; but as they are experienced dairymen, and thoroughly practical men, they knew about what each cow was giving in milk, and about its general quality, and sufficient to pronounce the grade of each cow, whether first, second, or third class. Therefore, in their record they do not give the exact record, as the committee would have desired, so as to compare with their own estimates, but they give the general qualities of the cow, and the two records must be compared from that stand point. Another matter must be taken into consideration. The Messrs. Darlington are liberal feeders, which accounts partly for their rich, tasty butter, and tends to make their cows do full work. A standard of quarts for first, second, and third class, upon which to estimate the qualities of the cows, was agreed upon between the commission and Messrs. Darlington.

J. & J. DARLINGTON'S ACCOUNT.

- No 9.—
Quantity, first.
Time, six to eight weeks.
First-class cow.
- No 61.—
Quantity, second.
Time, six to eight weeks.
Second class cow.
- No 4.—
Quantity, third.
Time, four to six weeks.
Third class cow.
- No 1.—
Quantity, first.
Time, four to six weeks.
First-class cow.
- No 41.—
Quantity, first.
Time, four to six weeks.
First-class cow.
- No 22.—
Quantity, first.
Time, four to six weeks.
First-class cow.

GUENON COMMISSION'S ACCOUNT.

- No 9.—Grade Durham.—Bicorn, second.
Quantity, second.
Quality, second.
Time, four to six weeks.
- No 61.—Grade Durham.—Imperfect Flanders, third.
Quantity, second class.
Quality, second class.
Time, two months.
- No 4.—Grade Durham.—Flanders, third.
Quantity, third.
Quality, second.
Dry one month.
- No 1.—Grade Durham.—Flanders, sec'd.
Quantity, second.
Quality, second.
Up to her time.
- No 41.—Grade Durham.—Flanders.
Quantity, first.
Quality, second.
Time, six weeks to two months.
- No 22.—Grade Durham.—Flanders, 2d.
Quantity, first.
Quality, first.
Up to time, say four to six weeks.

- No 6.—
Quantity, third.
Time, six to eight weeks.
Third class cow.

- No 7.—
Quantity, second.
Time, eight to ten weeks.
Second class cow.

- No 67.—
Quantity, first.
Time, four to six weeks.
First-class cow.

- No 19.—
Quantity, third.
Time, two to three weeks.
Third class cow.

- No 32.—
Quantity, third.
Time, two to three weeks.
Third class cow.

- No 1.—
Agrees with the commission.
Second class cow.
Dry about two months.

- No 2.—
Agrees with commission.
First-class cow.
Dry four to six weeks.

- No 3.—
Second class cow.
Dry about six weeks.

- No 4.—
Agrees with committee.
Second class cow.
Large milker, but fails too soon.
Dry from six to eight weeks.

- No 5.—
Large milker.
First-class.
Dry six to eight weeks.

- No 6.—
Agrees with committee.
Second class.
Dry three to four weeks.

- No 7.—
First-class in every respect.
Best in the herd.
Dry four to eight weeks.

- No 8.—
Agrees with committee.
Good second class.
Dry four to six weeks.

- No 9.—
First-class.
Dry four to six weeks.

- No 10.—
Agrees with commission's.
Second class.
Dry six to eight weeks.

- No 11.—
First-class.
Dry about eight weeks.

- No 6.—Grade Durham.—Imperfect Flanders.
Quantity, third.
Quality, second.
Dry eight to ten weeks.

- No 7.—Grade.—Flanders, with bastard marks.
Quantity, second.
Quality, second.
Up to her time, six weeks.

- Reexamined, and shows bastard marks.
No 67.—Grade Durham.—Imperfect Flanders.
Quantity, first.

- Quality, second.
Dry eight weeks.
No 19.—Grade.—Selvage, third.
Quantity, third.

- Quality, second.
Dry eight weeks.
No 32.—Durham.—Flanders, third, partly bastard.

- Quantity, second.
Quality, second.
Dry eight weeks.

- No 1.—Grade.—Flanders, third.
Quantity, second.
Quality, second.
Dry two months.

- No 2.—Grade.—Flanders, second.
Quantity, first.
Quality, first.
Dry four to six weeks.

- No 3.—Grade.—Imperfect Flanders.
Quantity, first.
Quality, first.
Dry six weeks.

- No 4.—Grade.—Flanders, second.
Quantity, second.
Quality, second.

- Dry six to eight weeks.
No 5.—Grade, Durham.
Quantity, second.
Quality, second.

- Dry eight to ten weeks.
No 6.—Grade.—Horizontal, first.
Quantity, second.
Quality, second.

- Dry four to six weeks.
No 7.—Grade.—Curveling, second.
Quantity, second.
Quality, third.

- Dry four to six weeks.
No 8.—Grade, Durham.—Horizontal, first.
Quantity, second.
Quality, second.

- Dry four to six weeks.
No 9.—Grade.—Flanders, a Gauche.
Quantity, second.
Quality, second.

- Dry six weeks.
No 10.—Grade.—Flanders, second.
Quantity, second.
Quality, second.

- Dry six weeks.
No 11.—Grade.—Double selvage.—Some bastard marks.
Quantity, second.
Quality, second.

- Dry ten to twelve weeks.

No. 12.—
Agrees with commission's.
First-class.
Dry six to eight weeks.

No. 13.—
Agrees with commission.
Third class.
Dry four to six weeks.

No. 14.—
Agrees with commission.
First-class.
Dry two to three weeks.

No. 12.—Grade.—Imperfect Flanders.
Quantity, first.
Quality, second.
Dry six weeks.

No. 13.—Grade, Durham.—Flanders, third.
Quantity, third.
Quality, third.
Dry six to eight weeks.

No. 14.—Grade.—Flanders, second.
Quantity, first.
Quality, second.
Up to her time.

We were present at the examination of our stock by the Pennsylvania Guenon Commission, on October 2d, and have examined the accounts here rendered, with the original written opinions, and find them to correspond. The accounts were given by both parties without either knowing anything of the accounts of the other.

(Signed) J. & J. DARLINGTON:

Having given the results of their work, the commission would now leave the further solution of the problem to the practical dairymen of the State. They, of course, expect that not only their report, but also the correctness of the system, will be criticised; but if this criticism is conducted with a spirit of fairness, and with a view to obtain the truth, they fully believe the result will be favorable.

By direction of the commission.

WILLIS P. HAZARD,
Secretary.

THE GUENON SYSTEM OF JUDGING OF THE VALUE OF MILKING STOCK.

BY THE SECRETARY OF THE BOARD.

The comments upon the work of the commission appointed to test this system, together with the publication of their partial report at the May meeting of the Board, have caused much inquiry at this office as to the value of the system. In many cases, these inquirers seem to have assumed that the theory is of recent origin, and in some way specially connected with the Board of Agriculture. In other cases, the work of the Board in instituting and carrying out the investigation, has been misconstrued and misunderstood. In view of these and other facts which might be given, it has been thought best that a plain and distinct account of the system should have a place in the same volume which contains the report of the commission. In furnishing this account, the Secretary would have it distinctly understood that it in no way commits the Board to an official indorsement of the theory, nor should it in any way be taken as such an indorsement; but it is to be taken simply as an account, the object of which is to make the system understood properly, and thus enable the practical reader to judge of the value, not only of the report of the commission, but that of the system also. The Secretary has full faith that the intelligence of his readers will enable them to draw the line between right and wrong, and between mere theory and practice.

The Escutcheon or Mirror.

In his authorized account of the discovery and perfection of his system, Guenon uses the following language: "When fourteen years of age, I used, according to country custom, to drive our only cow to the grazing ground. I was very fond of her, and could have identified her among ever so many. One day as I was whiling away the time in cleaning and scratching my old companion, I noticed that a sort of bran or dandruff detached itself in considerable quantities from certain spots on her hind parts, formed by the meeting of the hair as it grew in opposite directions, which spots I have since called *ears*, from the resemblance they often bear to the bearded ears or heads of wheat or rye. This first attracted my attention, and I recollected having heard my grandfather say that it was probable that there were external marks on cows whereby their good qualities or their defects might be known—just as we judge of the vital force of a plant and its qualities by means of its leaves and lines in its skin. Reflecting on the subject, I arrived at the conclusion that if in the vegetable kingdom there exists external signs, whereby the good and the bad qualities of a plant can be positively known, there ought to exist in the animal, of its kingdom, also, marks whereby we may judge, by inspecting an animal, of its qualities, good and bad, and I thought I had discovered one of these signs. I sought the bearded ears or quirls, and scratched those spots in quest of dandruff, the abundance or scarcity of this being what first engaged my attention. Every new cow was compared with my own as a standard, and her superiority, equality, or inferiority determined in my own mind. In the course of the comparisons thus instituted by me, with reference to the dandruff alone, which was at first the only thing that governed me, I had occasion to remark that great diversities existed among cows in respect to the shape of the bearded ears (quirls) which produced the dandruff. This suggested a new train of reflection and observation, which resulted in my becoming convinced that these *shapes* were the signs by which to distinguish cows, and to know the good and bad qualities of every individual among them."

In his original plan, Guenon divided these different shapes into eight classes, each of which was sub-divided into eight orders. As he progressed in his investigations, he afterwards added two more classes, and reduced the orders to six in each class. These he supposed would cover all cases which might come up for examination. He also divided cows into three grades, which, in accordance with their *size*, he styled high, low, and medium. From this it will be noted that Guenon, in classifying cows, was governed first by the class, second by the order in the class, and finally by their size. These *classes* he divided and named as follows:

1st class, or Flanders.	6th class, or Double Selvage.
2d " " Left Flanders.	7th " " Demijohn.
3d " " Selvage.	8th " " Square Escutcheon.
4th " " Curveline.	9th " " Limousine.
5th " " Bicorn.	10th " " Horizontal.

The ten orders in each of these classes were simply designated by their appropriate numerals. Each *class* was better than the succeeding one, and each *order* better than the following one of the *same* class, but might be better than the preceding order of the *next* class.

Of this seeming multiplicity of classes, orders, and sizes, Chalkly Harvey, one of the commission appointed to test the system, writes thus:

"Now this may seem somewhat discouraging to your readers, but with all due respect to Guenon, to whom all honor and praise should be accorded for his brilliant

discovery, I think that it may be so simplified that every farmer, dairyman, and dealer can learn it all in a short time, and may find the study quite interesting. I began it laboriously, supposing that a mastery of all the details was necessary to make it of any use, but more than twenty years of constant application in practice has simplified it to my mind, and has added a little, I think, to the original discovery. The substance of Guenon's discovery is that the milking qualities of any cow, of any breed, are indicated by an outward sign that all may see and easily understand. The hair on a cow, as on other animals, grows downward on the hind-quarters, but there is an exception to this rule on the back part of the udder, where it usually grows upward. The first lesson for a beginner is to notice this fact. Let him stand behind a quiet cow, and rub the hair on the udder both ways until he sees or feels just what I mean. Guenon called the surface that is covered by this upward growth the escutcheon; others have called it the milk-mirror; but this is no improvement in any respect, and I shall name it as Guenon did, for there is no real objection to that name, and there is serious objection to making confusion by calling the same thing by different names. The escutcheon, then, is that surface on the cow's udder where the hair grows upward. But it is not confined to the udder, it extends upward above the udder, often to the vulva, and outward upon the thighs on both sides of the udder. (See Flanders cow, class first, order first.) These escutcheons are different in size, in shape, and in quality, (quality means the quality of the skin, and of the hair growing on it,) and these differences indicate the different milking qualities of the cows, including quantity and quality of milk, and the length of time they will give milk after being with calf. On the edges of the escutcheon where the upward and the downward growths of hair meet, a feather is formed, and this is most conspicuous on the back part of the thighs where escutcheons extend that wide. If the hair is long, as it generally is in winter time, the observer can define the limits of the escutcheon better by applying his hand, and smoothing the hair to its natural place. He will now perceive that the hair on the escutcheon is shorter and softer than elsewhere, as well as turned upward in its growth, and sometimes nearly resembles fur.

"Let us now particularly consider the shapes and sizes of these escutcheons. There is one general shape to which they conform, and that is that they are wider below than above, and at or near the top of the udder they narrow in abruptly; some continue up as far as the vulva, and even above it, and others but a little distance above the udder. The size and shape of this upper part of the escutcheon is of less importance than that of the lower part, but both must be considered—the larger the escutcheon the better. All great milkers have very large escutcheons. In large ones the upturned growth often begins on the belly, in front of the udder, extends along between the teats and up the back part of the udder, over the whole width. Indeed, the udder is not wide enough for it, and it encroaches on the thighs, where we may find the hair having an upward growth on them, inside next the udder, beginning not far above the hock joints, and running up as high as the wide part of the escutcheon extends up the thighs, and which often terminates with corresponding curls in the hair at the outlines, and the higher up and wider these are apart the better. Though the extension of the escutcheon to the front part of the udder on the belly has been mentioned, that is not a matter of practical interest in ordinary cases. All that needs to be studied is plain to be seen by standing behind the cow. When the escutcheon is small, it does not reach the thighs, and often does not cover the whole of the back part of the udder. These differences in size can be distinguished at the first lesson taken in the cow-yard, and when that has been done, the next thing is to consider their shapes. A good escutcheon is symmetrical. The feathers on the two thighs are at equal distance from the middle line of the body, and extend up to equal heights on the back parts of the thighs. A broad and high escutcheon, (speaking now only of the lower broad part of it,) that is *alike on both sides*, certainly indicates a superior milker. There is nearly always another sign accompanying such an escutcheon, and that is one or two *ovals* just above the hind teats, on which a *fine* coat of hair grows downward. These may be large or small, may be one or two, and may be alike in size, or unlike, but they are always good signs. Two are better than one, and the larger and more uniform they are the better; they are almost always present on large and symmetrical escutcheons. No escutcheon is ever first class if it has not one or both, and one, at least, of good size. What constitutes 'good size' will be better learned by a few observations than can be taught by inches, and I want to leave something to the ingenuity of the learner, to make the study interesting.

"Now, let us consider the shape and size of that part of the escutcheon which I have spoken of as the upper part; that is, the narrow portion that has its base on the top of the lower and wider portions, and runs up toward the vulva. Sometimes, though very rarely, this does not exist at all. Sometimes it is broad, and extends all the way up, with perfect symmetry. Sometimes it terminates in a curved line, at a greater or less distance up; and, indeed, it may be seen of almost any shape. As a sign of excellence, the larger and more symmetrical it is, the better—but a good *lower* part of the escutcheon is the main thing, and that, as a sign, can hardly be vitiated by any imperfection of the upper part. When the lower part is very good, there is usually uniformity in the part. A poor escutcheon is one that is small, or that is imperfect in form."

As Guenon continued his examinations, he found that his classes did not afford a place for all animals, or rather that there were occasionally to be found cows whose escutcheons while apparently belonging to one of these classes, had at the same time, certain distinguished features which he styled imperfect escutcheons. These Mr. Hazard, the secretary of the commission, described as follows:

"The perfect escutcheon of each Class is the one which is in Order No. 1. All variations from this are rated lower in the scale; these variations may consist of a smaller size, therefore, the escutcheon would not be so broad or high upon the thighs, nor so broad upon the vertical portion; they may consist of the lack of ovals, which would place them below the first order; they may consist of blemishes, which are tufts of hair growing alongside of the vulva, or below it; or they may consist of strongly marked imperfections, which may be cuts or slices taken out of the escutcheon; or, coarse, harsh, wiry hair on the back and upper part of the udder. Finally, they may be so decided as to place the animal among the bastards.

Of the tufts, Guenon says all tufts encroaching on the escutcheon diminish its value, except the oval ones on the udder; that is to say, they indicate a diminished aptitude for yielding milk. The size and location of these tufts make the animals descend one or more orders in the classification. It is, therefore, important to attend to all the patches of descending hairs which lessen the size of the escutcheon, whether these occur in the middle of it or form indentations on the sides. These indentations, partly concealed by the folds of the skin, are sometimes perceived with difficulty. Many cows, which at first glance appear to be well-marked, on close examination display their deficiencies, and want of this scrutiny often causes mistakes in estimating the value of cows, and thus the system suffers.

Guenon says the cause of the defects, as exhibited by the tufts on the thighs, is that the veins situated beneath, on either side of the belly, have a peculiarity; that they are contracted, and there is a small opening for it where it pierces the abdominal muscles.

Sometimes there is an intermingling of two forms of escutcheons. This depends upon the crossing between a cow of one class and a bull of another. This is one of the difficulties to be encountered in precisely estimating the value of the animal.

Guenon classified the seven tufts, into two kinds: Those on which the hair ascends, and those on which it descends. Those with ascending hairs are simply traces which encroach on the descending hair outside the escutcheon, either on one side or beneath the vulva. Those with the descending hair are on the escutcheon, and are five in number.

1. *Epi ovale*, oval tuft. These are situated on the udder, like those on class one, two, three, four, order first. They are good signs, if of descending fine hair, small, and regular. They are mostly seen on only the best cows, though occasionally to be met with in some of the lower orders.

2. *Epi fessard*, ischiatic tuft. These are found on the vertical escutcheon on one or both sides of the vulva, as in class four, five, orders two, three, four; and very conspicuously in the bastards of class three, four, five, six. They are of ascending hair, and never seen in first class cows, but in most others to a limited extent.

3. *Epi babin*, lip-shaped tuft. This is only seen as a sign of deterioration in the two first classes; it is made by descending hairs, and is a defect for milking qualities. It is like a string hanging over the top of the vulva, and making its outline a little below it on each side. It is seldom seen.

4. *Epi vulvé*, vulvan tuft. This is also a deteriorating sign; is a tuft of descending hair directly under the vulva, as in class one, orders three and four.

5. *Epi batard*, perinæal tuft. This is always a bad mark, as it exists on otherwise good marked cows, and indicates a diminution of milk, as soon as the cow becomes pregnant. It is seen on class one, bastard. A cow is to be looked upon with suspicion that has this mark largely developed.

6. *Epi cuissard*, thigh tufts. These are diminutions of the escutcheon by encroachment of descending hair, and denote a diminishing of the quantity of milk, proportionate to their extent. See class one and two, order four.

7. *Epi jonctif*, mesian tuft. The mesian or dart-like tuft, with soft silky ascending hair, is rarely seen, and only in those classes in which the escutcheon does not ascend to the vulva. It is like a V hanging beneath the vulva, and is not fully represented in the plates, though class ten, order two, shows it somewhat."

In these observations among cows, not only during their work as members of the commission, but also in preceding examinations, Messrs. Blight, Harvey, and Hazard noticed a series of marks, which they have denominated *thigh ovals*. The plate showing the escutcheon of Mr. Hazard's Jersey cow furnishes one of the best illustration of these marks yet met with by the commission. Where the vertical escutcheon joins and widens out into the thigh escutcheon, there is usually a dip of a curved shape more or less in extent. In the plate above alluded to these thigh ovals descend nearly to the base of the udder. In their careful examination of more than two hundred cows, the commission always found these marks only on good cows.

In his examinations Guenon found cows of apparently each class with certain variations in their markings which distinguished them and prevented their incorporation into any class, and, yet the similarity gives them a claim in their particular class. In all cases he claims to have noted that cows thus marked would milk as well as other members of their class, until they were got with calf, but as soon as this was accomplished, the quantity of milk fell off rapidly. The commission claim it is this style of marking which is most likely to deceive the superficial or amateur investigators, and that these have caused the assertion that a poor cow may be well marked, when in reality, if properly understood, she was *not* well marked. This class of cows Guenon styled *Bastards*, and he practically assigned to them a distinctive or seventh *order* in each class.

In 1822, Guenon seems to have first reduced his system to a classified basis, and from that time until 1828 he appears to have given it much of his time and attention. Having, as he deemed, sufficiently arranged and tested his system, he, in 1828, applied to the academy of Bordeaux for a public test of the correctness of his mode of judging of cows and their milking value.

The following, from the proceedings of the academy, shows that Guenon did not make his system common property. The minutes of the academy, under date of June 3, 1828, contains the following record: "Mr. Francis Guenon, of Libourne, possessor of a method which he deems infallible for judging, by mere visual examination, of the goodness of milch cows, and the quantity of milk which each can yield, has solicited the Academy to cause the efficaciousness of this method to be tested by repeated experiments. The case presented by this request was one of a secret method

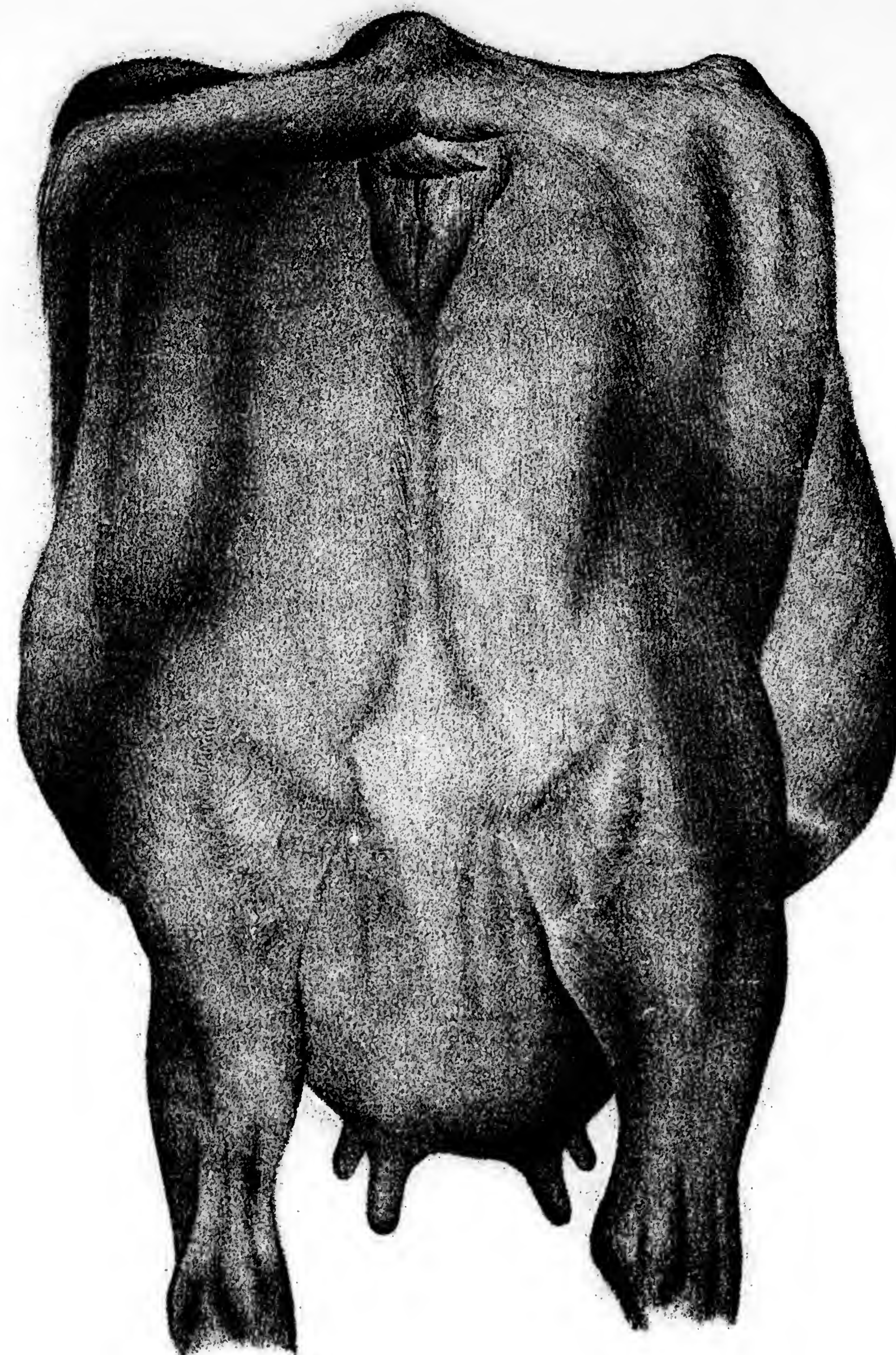


PLATE SHOWING THE ESCUTCHEON AND THIGH-OVALS
OF A THOROUGH BRED JERSEY COW,
OWNED BY WILLIS P. HAZARD, WEST CHESTER, PA.

of judging, which the possessor was not willing to reveal. On the other hand, it seemed difficult to admit that the external sign, whatever it might be, by which Mr. Guenon judges, could always bear a proportional relation to the quantity of milk yielded by a cow. Nevertheless, the academy deemed it proper to appoint a committee charged with making the examination. Trials have been made with care, and under precautions necessary for precluding all collusion. The cows used for the purpose belonged to three different herds, and amounted to thirty in number, and the result has been to establish, to the satisfaction of the committee, that Mr. Guenon really possesses great sagacity in this line. So long, however, as his method shall be kept secret, it cannot be judged of, nor rewarded by, the academy. Governed by these considerations, the academy, having ascertained from Mr. Guenon that he is willing to submit to every test that may be proposed, and to disclose his secret, upon receiving a just indemnity, has referred him to the prefect, and has engaged to recommend him to the favorable notice of that magistrate, who is ever disposed to promote all that tends to improve it."

From 1822 to 1827, it would seem that Guenon perfected and studied his system, but it does not seem to have come promptly before the public, until the agricultural society of Bordeaux took upon itself a careful investigation of the whole system. From the detailed report of this committee, appointed by this society to test the knowledge of Guenon, we take the following as illustrating, not only the results reached by them, but also the manner of conducting the examination:

"Every cow subjected to examination was separated from the rest. What Mr. Guenon had to say in regard to her was taken down in writing by one of the committee; and immediately after, the proprietor, who had kept at a distance, was interrogated, and such questions put to him as would tend to confirm or disprove the judgment pronounced by Mr. Guenon. In this way we have examined, in a most careful manner—note being taken of every fact and every observation made by any one present—upward of sixty cows and heifers, and we are bound to declare that every statement made by Mr. Guenon, with respect to each of them, whether it regarded the quantity of milk, or the time during which the cow continued to give milk after being got with calf, or finally, the quality of the milk as being more or less creamy or serous, were confirmed, and its accuracy established. The only discrepancies which occurred, were some slight differences in regard to the *quantity* of milk, but these we afterward fully satisfied ourselves were caused entirely by the food of the animal being more or less abundant.

"The result of this first test seems conclusive, but they acquire new force from those of a second trial in which the method was subjected to another test through M. Guenon and his brother. Your committee, availing themselves of the presence of the latter, caused the same cows to be examined by the two brothers, but separately, so that after a cow had been inspected, and her qualities as indicated by the signs in question had been pronounced upon by one of the brothers, he was made to withdraw; then the other brother, who had been kept aloof, was called up, and desired to state the qualities of the same animal. This mode of proceeding could not fail to give rise to difference, to contradiction even, between the judgments of the two brothers, unless their method was a positive and sure one. Well, gentlemen, we must say it, this last test was absolutely decisive. Not only did the judgment of the two brothers accord perfectly together, but they were in perfect accordance also with all that was said by the proprietors in regard to the qualities, good or bad, of every animal subject to this examination."

On the 26th of May, 1837, a similar test was made by the agricultural society of Aurillac, whose committee, in their report, use the following language:

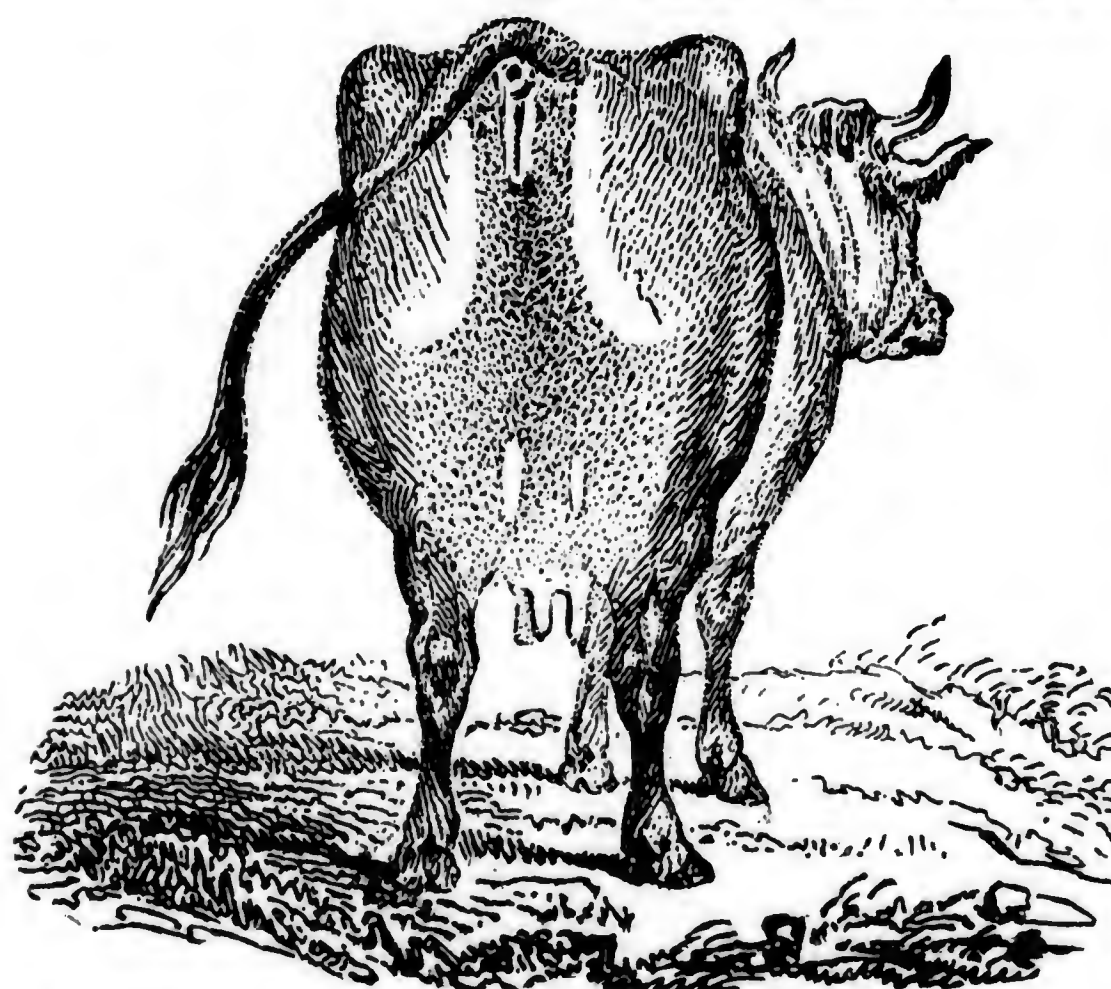
"Each cow was examined separately by M. Guenon, who wrote his notes upon her, and delivered the paper closed to one of us. Immediately after, another member of the committee questioned the owner of the cow, or the person in charge of her, in regard to her daily yield of milk, its quality, and the time during which she continued to give milk after being got with calf. The answers were taken down in writing, and then compared with the notes written by M. Guenon. They were generally found to accord, and proved to the satisfaction of your committee and of every one present, all of whom attended with lively interest to these proceedings, that M. Guenon possesses great sagacity in judging of cattle, and that his method rests upon a sure foundation."

DESCRIPTION OF THE CLASSES AND ORDERS.

Prepared by W. P. HAZARD, *Secretary of the Pennsylvania Guenon Commission.*

In the following descriptions of the ten classes, and their sub-division into six orders each, we give the quantity as stated, for a large-sized cow. Not thinking it worth while to enter so minutely into his sub-divisions of high, medium, and low cows. For instance, to class one, order one, he gives to the high cow, twenty-four litres, which is about equal to our twenty-four quarts here; the litre being exactly two and one eighth wine pints. To the medium cow he gives nineteen quarts, and to the low cow, fourteen quarts, per day. The size of his high cow is five hundred and fifty to six hundred and fifty pounds, *dressed weight*; the medium, three hundred and twenty-five to four hundred and fifty pounds; and the low, one hundred and ten to two hundred and twenty-five pounds. As most of our cows will range with the high cows, we have adopted the scale suitable to the size, only the reader who practices the system must keep in mind that the larger and more developed the cow, the more she will be likely to give than the cow of smaller size.

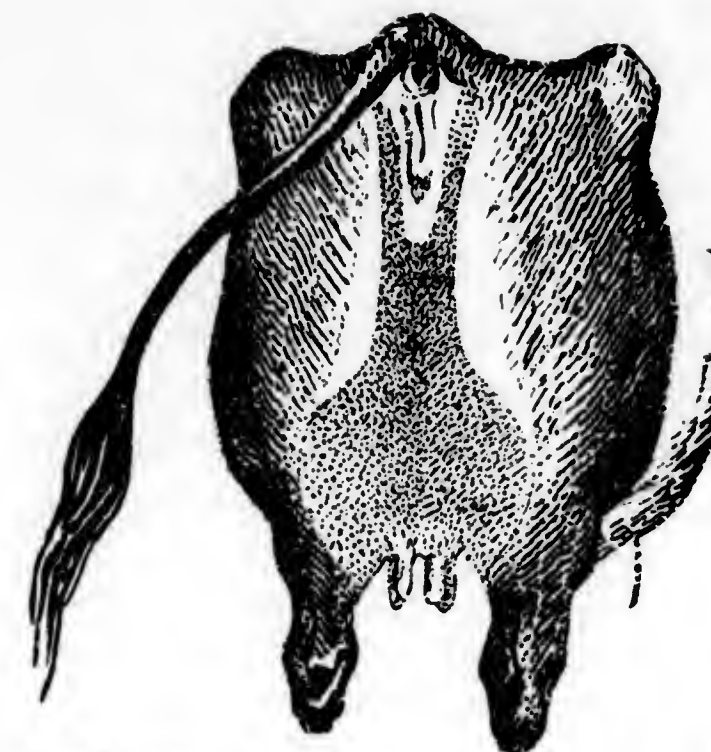
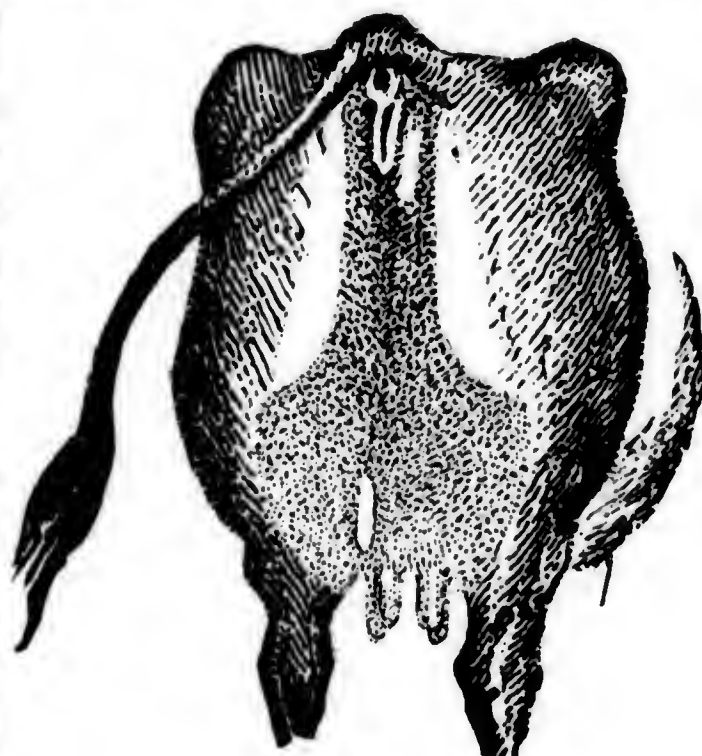
First Class. The Flanders Cow.



Cows with this escutcheon are the most seldom found, except among the most abundant milkers. In the first order they give twenty quarts per day, in the height of their flow; that is to say, from the time they have calved until they are pregnant again. Then they diminish, little by little, until their next calving. It is best to dry them off from four to six weeks before calving, to give them a needed rest, and it improves the calf.

Cows of the first class have a soft udder, with fine hair on it, rising until it blends with similar hair growing upward on the thighs, above the hock, and widening on the thick part of the thigh, then narrowing, like in the engraving, until it reaches the vulva, and being about two inches on each side of it. The inner parts of the thigh, and the vertical mirror are usually of a yellowish or nankeen color, with dark spots on them, from which can be detached the dandruff. There are two ovals on the udder, of fine short hair.

The second order of the first class are similar to the first, but the escutcheon is smaller; and on the right side of the vulva is a tuft of descending hair about two and one half inches long and one and one half inches broad, and there is but one oval on the



udder. They yield eighteen quarts of milk for a period of eight months.

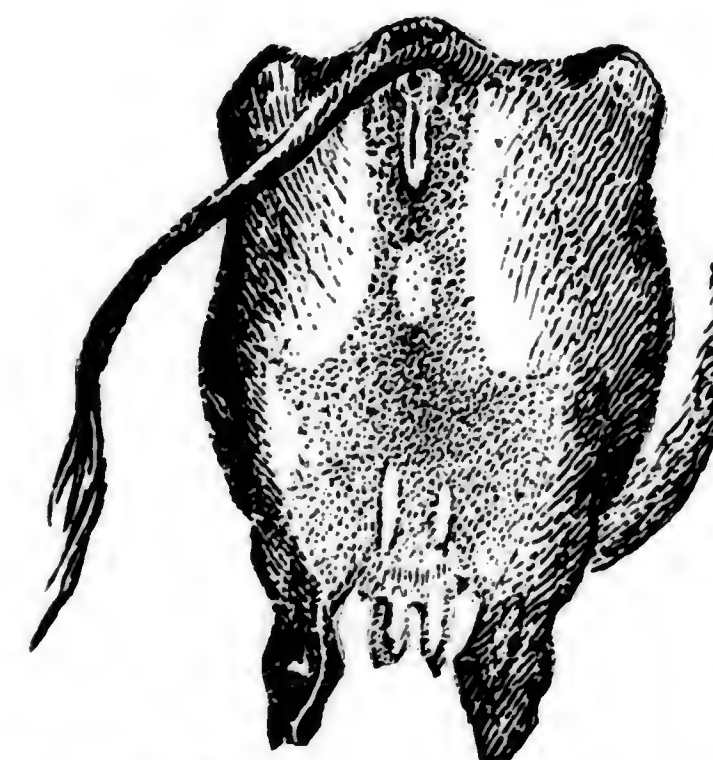
The third order of the first class is still smaller, and not quite so decided in shape. It has also a semi-circular tuft below the vulva of small size, of descending hair, rather shining and of brighter color. There is either only one oval on the udder, or generally none.

Cows of the third order yield sixteen quarts, and milk for six months.

The fourth order of the first class,

besides being still smaller, has narrower thigh escutcheons, and lower down; also the tuft under the vulva is quite long, about five or six inches, which sometimes make the vertical escutcheon terminate in a fork. This tuft has more lustre and is whiter than the hair around it. There is also a thigh tuft of half oval shape on the right of the escutcheon, about five inches high.

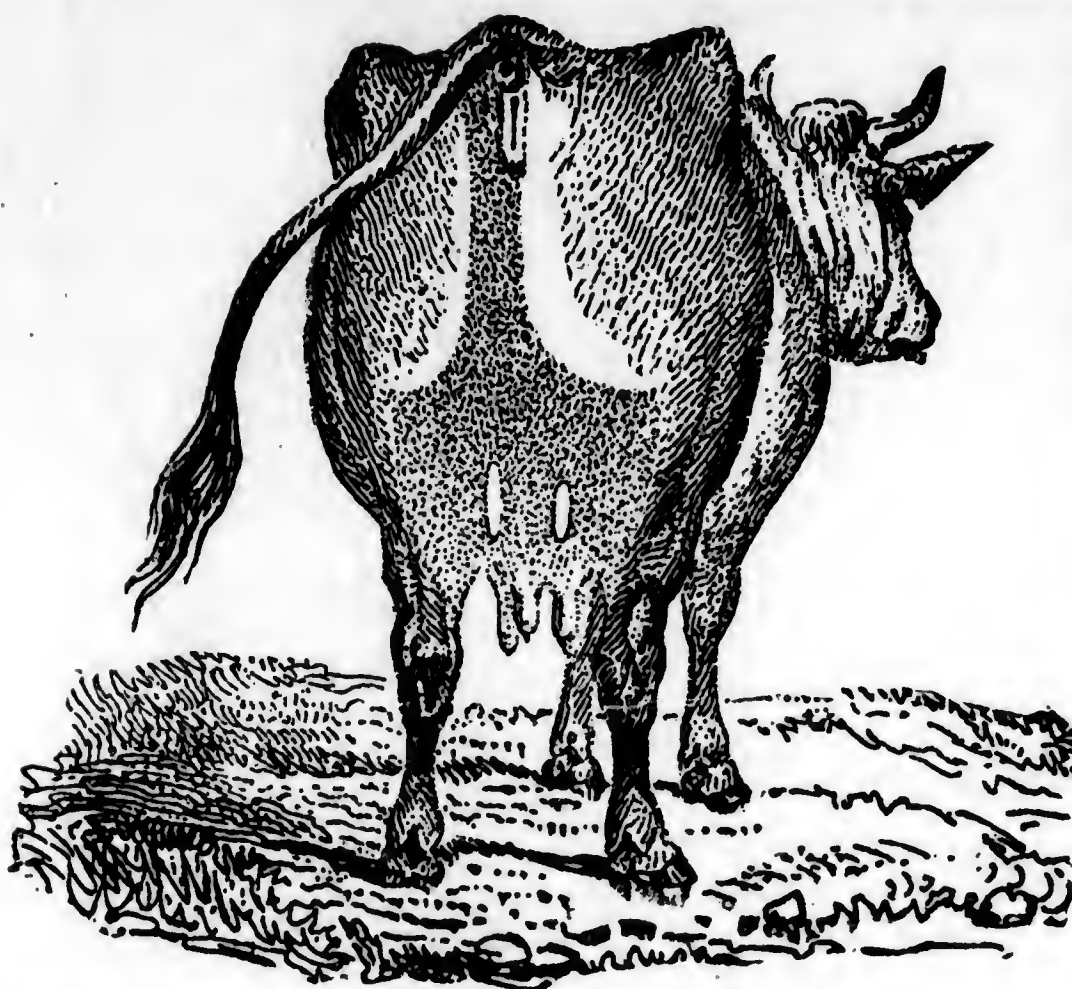
Cows of the fourth order yield twelve quarts a day, and milk five months.



The Bastard Flanders have two marks which distinguish them: 1. Some have on the vertical escutcheon an oval tuft, about the middle of it; this tuft has descending hair, is about three inches long and two inches wide, and the lustre of the hair makes it appear as if it was whiter than that around it. The larger the oval the sooner the milk will fail, and the smaller it is the longer will she milk. 2. Other Bastards of this class are distinguished by the ascending and descending hair interfering with each other on the outlines of the vertical escutcheon, looking feathery, or bristling like the beard of wheat. The skin is fine and reddish, but there is no

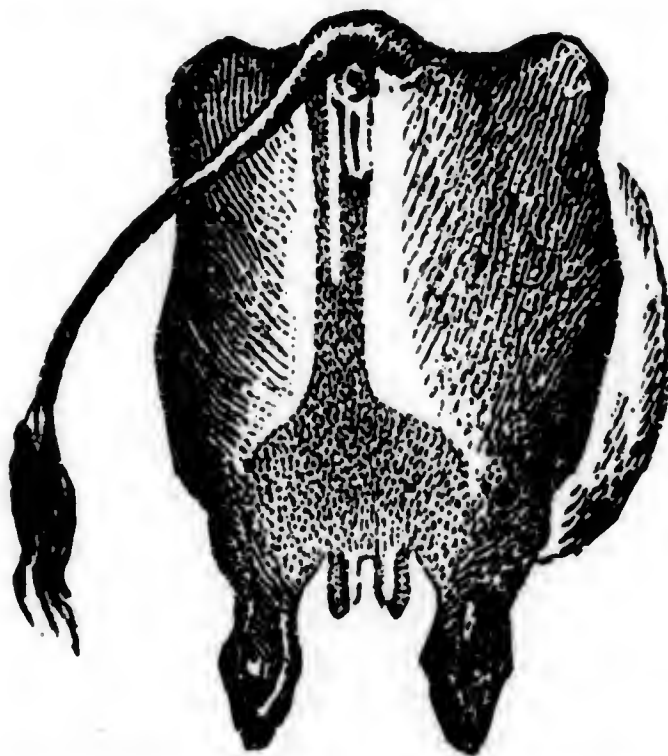
dandruff. The larger the escutcheon, and the finer the hair, the more abundant the milk; but when the hair is coarse, long, and thin, the yield is small. Both kinds of Bastards of this class have every other appearance of the best cows. And all Bastards of the first classes have the two ovals on the udder.

Second Class. Left Flanders.



eight months

The second order of the second class have the lip-shaped tuft to the left of the vulva, and have one oval on the left of the udder. Cows of this order give sixteen quarts, and milk seven months.

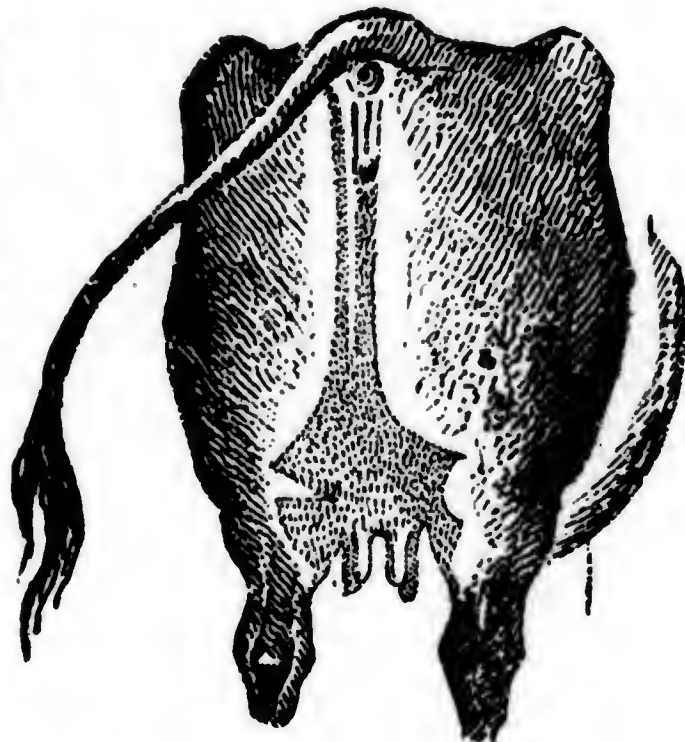
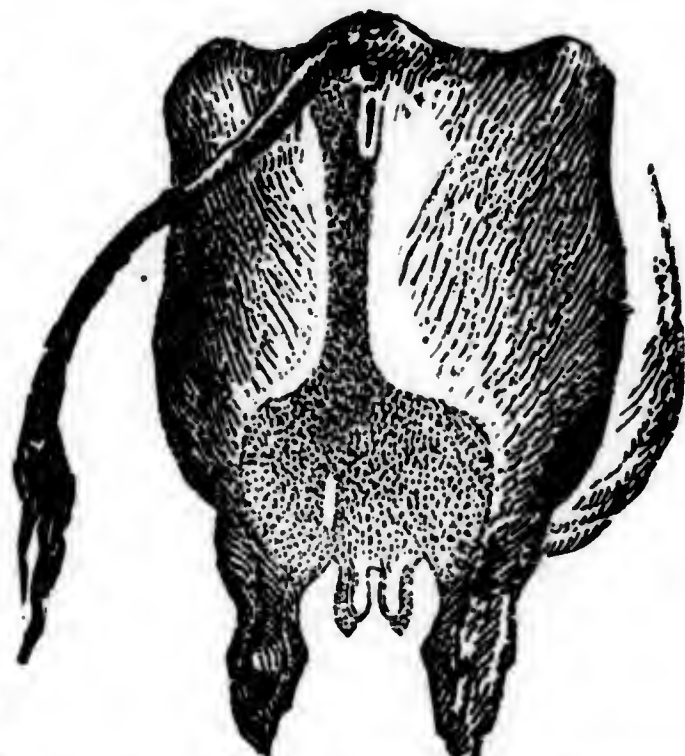


The third order has the same shaped escutcheon, but more contracted, and the lip-shaped tuft is larger and whiter. Cows of this order give fourteen quarts, and milk six months.

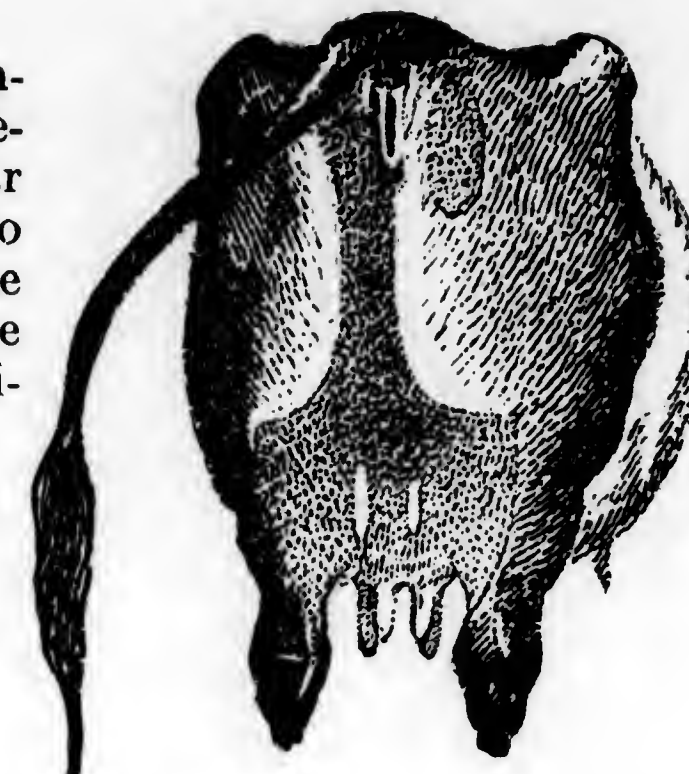
The fourth order has two invasions of the thigh escutcheon by the down-growing hair, a semi-oval one on the right, and a triangular one on the left. These always indicate a reduced quantity of milk.

Cows of the fourth order give ten quarts, and milk five months

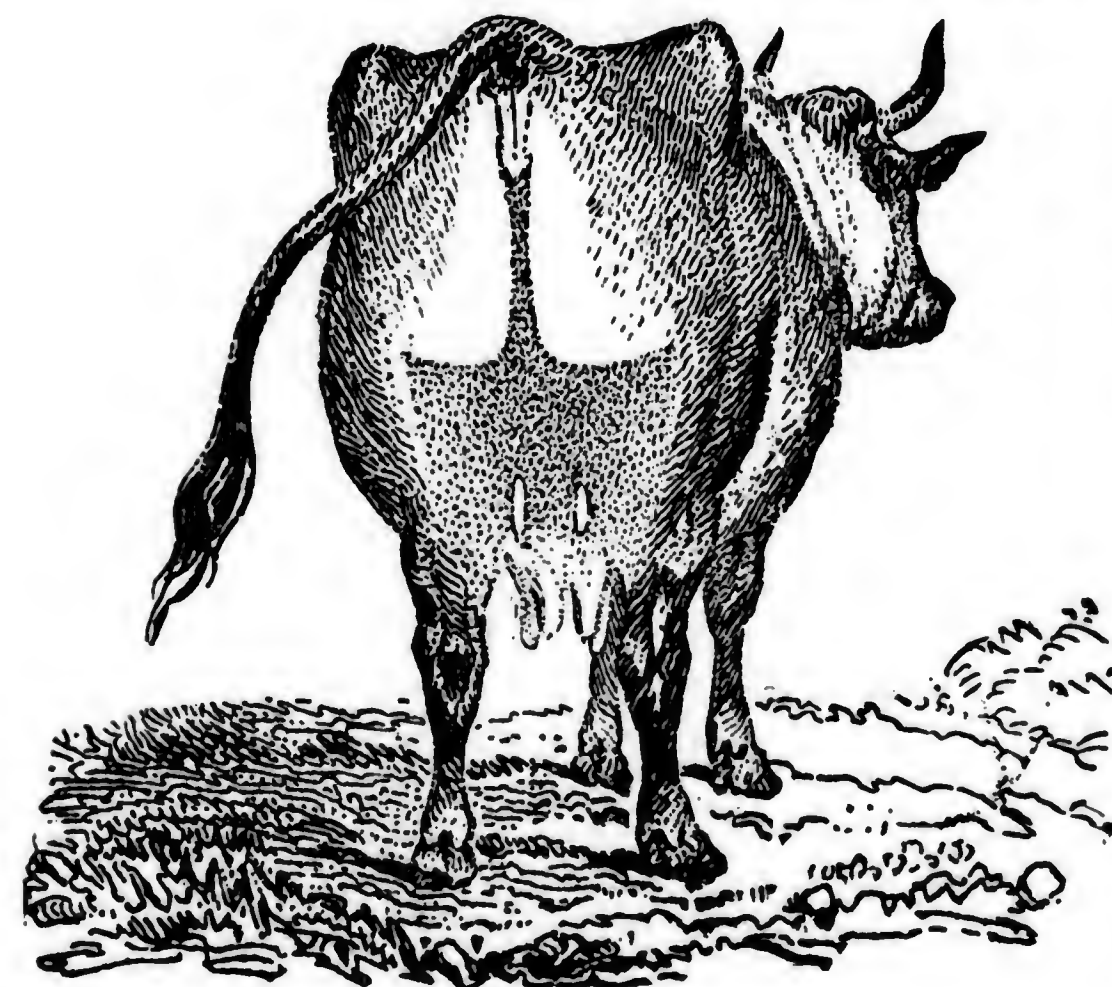
The cows of this class are very similar to those of the first class, though their yield is rather less. The vertical escutcheon is entirely to the left of the vulva, and the thigh escutcheon on the right is broader than that on the left. By comparison with the first class, these will be seen to be very similar, but in each order smaller; therefore, it will not be necessary to describe them separately, but simply to state the yield. Cows of the first order of the second class will yield eighteen quarts, and milk



The escutcheon of the Bastard Left Flanders is known by this peculiarity. The developments are larger and more irregular on the top of the vertical escutcheon, and to the left of the vulva; on the right is the ischiatic tuft, quite large, from which the hair is diverted in an almost horizontal direction.



Third Class.—Selvage.

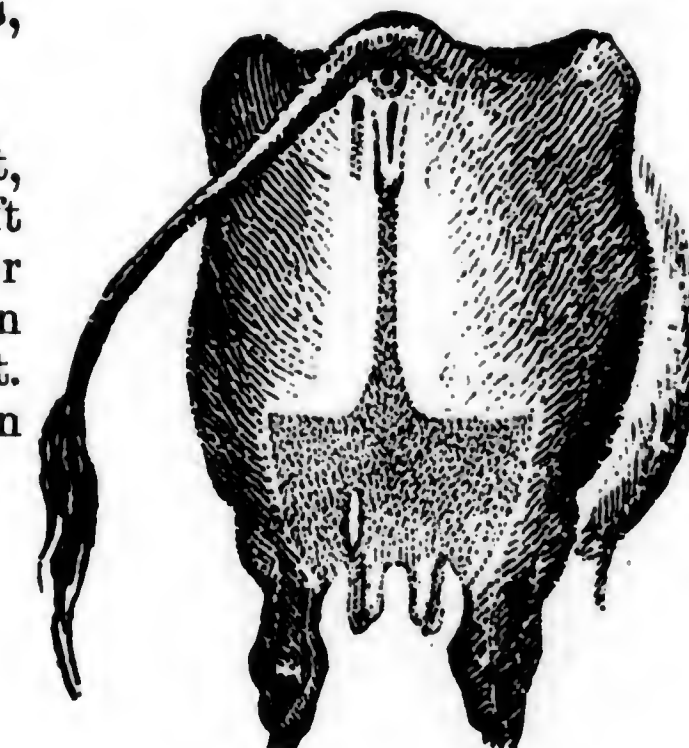


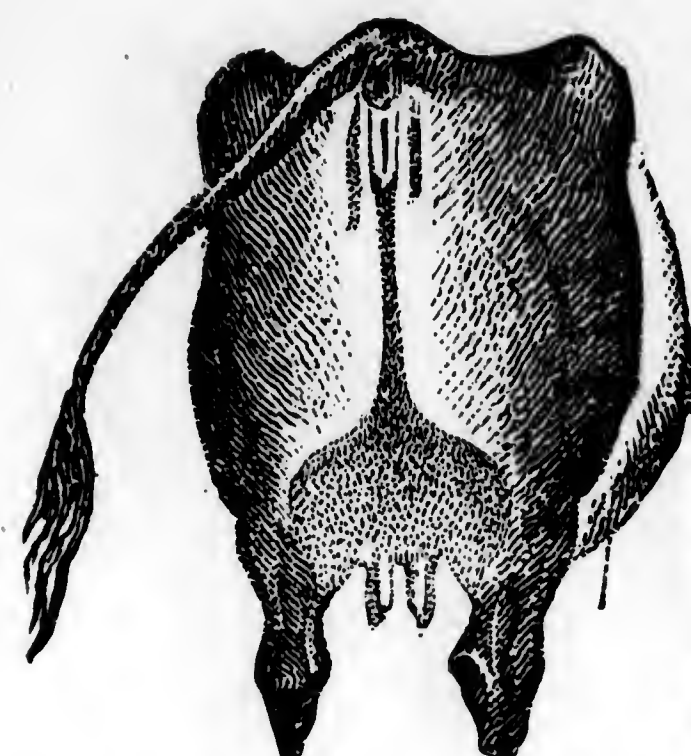
The escutcheon of this class commences above the hock, runs up on the thighs quite high, thence it descends somewhat from both sides to the vertical portion, which rises, gradually narrowing to the vulva.

The first order of the third class has an udder with soft skin, and fine downy hair, which, as well as the thighs, are of a yellow or nankeen cast of color. There are two ovals on the udder. Cows of the first order give nineteen quarts, and milk

eight months, and often will milk nine months, not going dry unless made to.

The second order is similar to the first, only of reduced size; it has a tuft to the left of the vulva; and only one oval on the udder on the left side; the hair of the escutcheon is generally more glossy than that around it. Cows of the second order give seventeen quarts, and milk seven months.

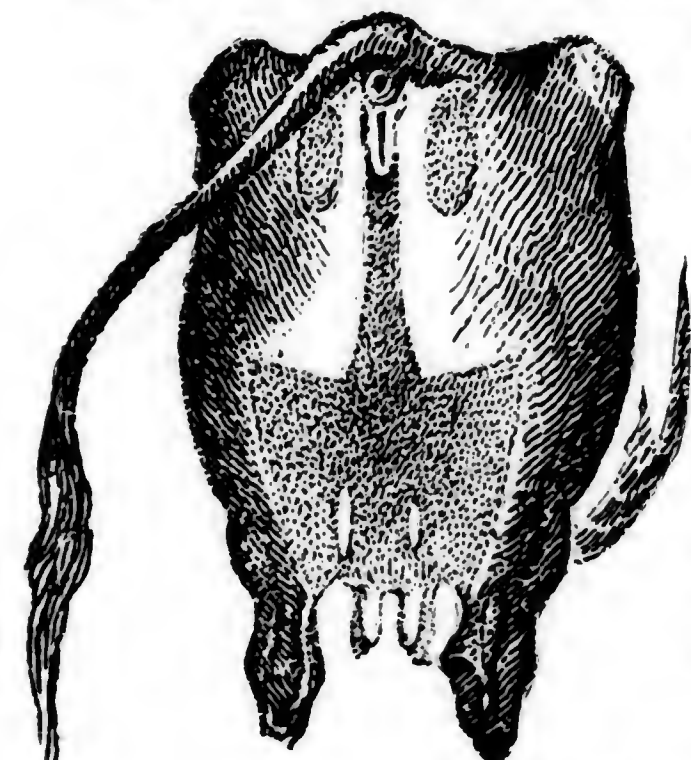




The third order escutcheon curves downward on each side of the vertical mirror, which rises narrowing to a point at the vulva; to the right and left of the vulva are tufts, the one on the left being the longest; on the left of the udder is sometimes an oval. Cows of the third order give fifteen quarts, and milk six months.

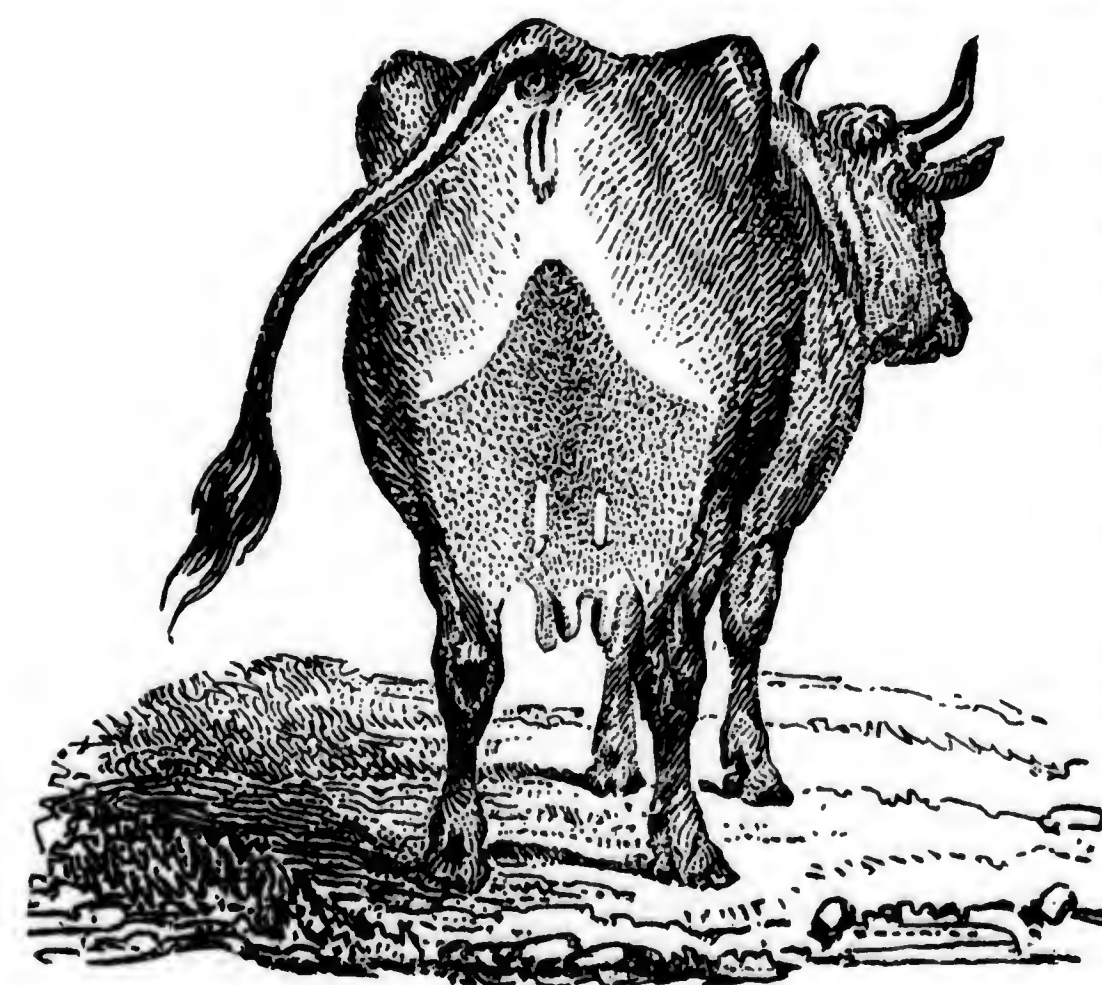
The escutcheon of the fourth order is of similar shape, but still smaller; but the tuft on the left of the vulva is much longer than on the right, and there is no oval on the udder.

Cows of the fourth order give twelve quarts, and milk five months.



The bastards of the third class have two tufts, one on the right, and one on the left of the vulva, about four to five inches long, and one and one half inches wide. The smaller they are, and the finer the hair on them, the less rapid is the loss of milk. But if they are large and have coarse hair, and are pointed at each end, they prove the milk to be poor and serous, and the cow will fail rapidly.

The Fourth Class. Curveline.



The Curveline cows are very plenty, and are of a very good grade, approaching the first class. The escutcheon is broader than the last two classes, in the upper part. Their skin is of delicate texture, and nankeen shade of color on the escutcheon. The higher and broader the curved line rises toward the vulva, which it never reaches, the better it is. There are two ovals on the udder. Cows of the first order of the fourth class give 19 quarts, and milk eight months, and sometimes up to their next calf.

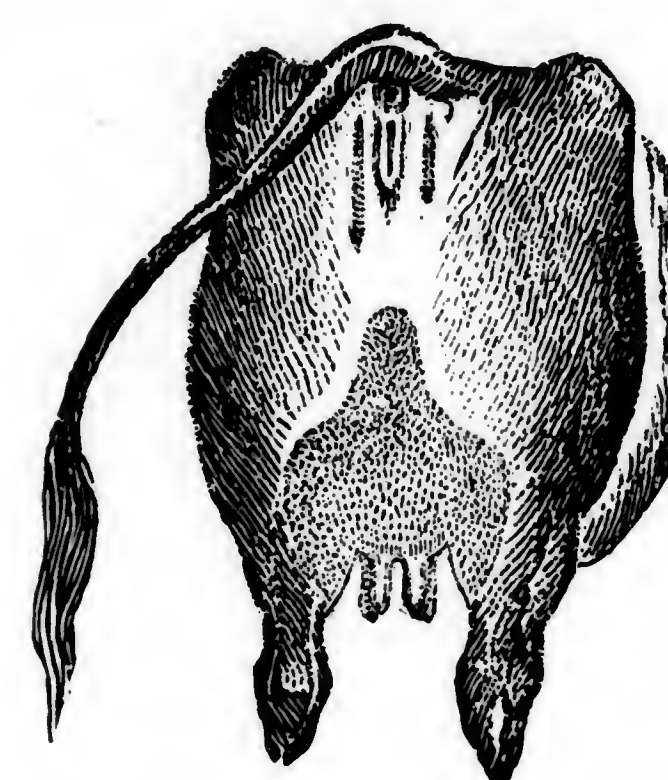
The second order have the same shape escutcheon, but more contracted. There is but one, and sometimes no oval on the udder. On the left of the vulva is a small tuft.

Cows of the second order give seventeen quarts, and milk seven months.



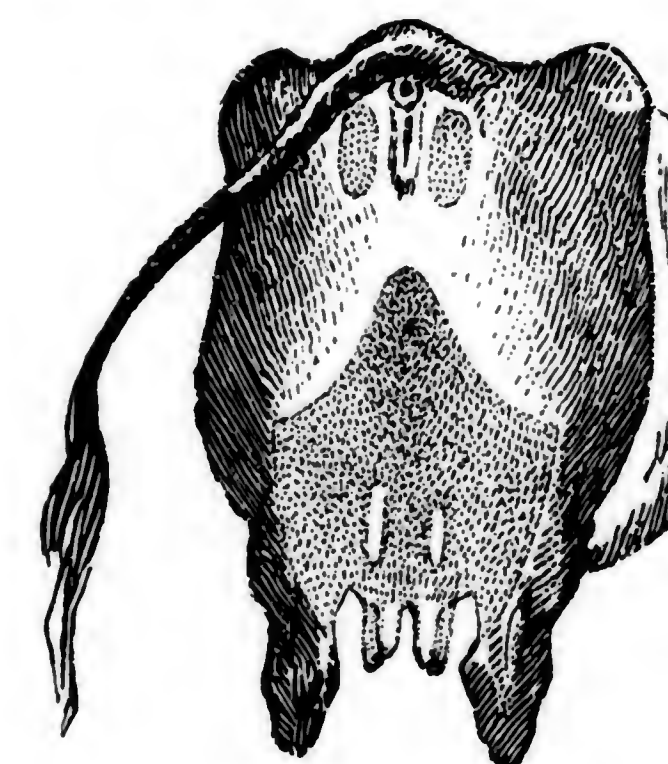
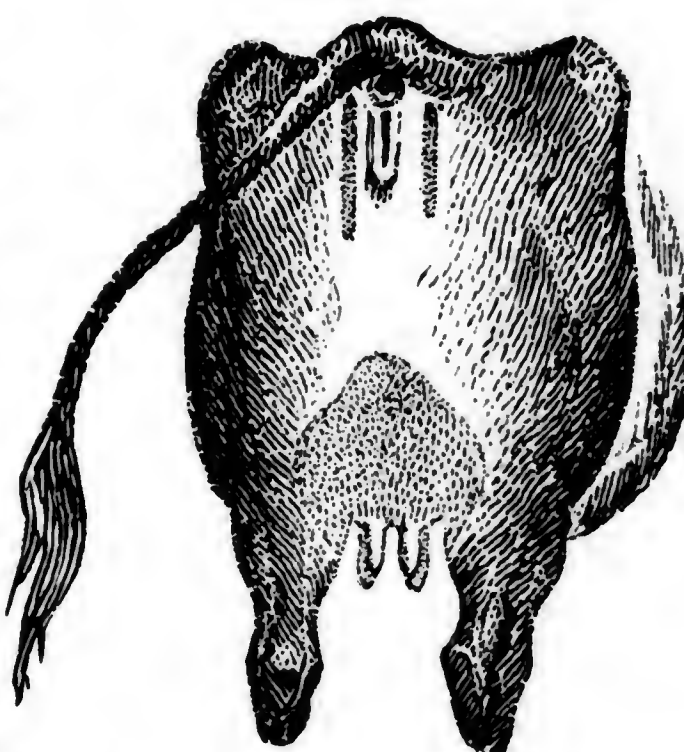
The third order has a smaller escutcheon, with two tufts by the vulva, the left longer than the right, about four inches by one inch wide. Sometimes an oval on the left side of the udder.

Cows of the third order give fifteen quarts, and milk six months.



The fourth order has a much smaller escutcheon, reaching just above the udder. The two tufts are larger alongside the vulva, and the hairs bristle to each side. On the right, the downgrowing hair intrudes somewhat upon the escutcheon.

Cows of the fourth order give twelve quarts, and milk five months.



The Bastards of the fourth class have a fine appearance of escutcheon, but they are known by the tufts alongside the vulva. If they have coarse bristly hair, and of large size, say four to five inches long, and one and a half in width, they indicate a rapid loss of milk as soon as pregnant, particularly if they are pointed at each end.

The Fifth Class. The Bicorn.

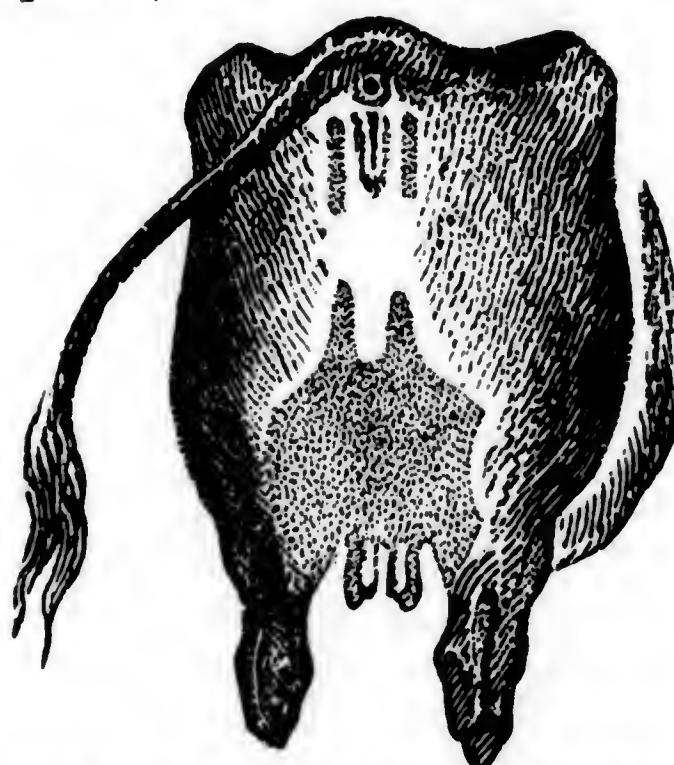


The escutcheons of this class in the vertical portion end below the vulva in an indented shape, presenting the appearance of two upright horns. Their udders are of a saffron color, delicate, with fine, soft hair, and have much dandruff.

The first order has two tufts of small size along the vulva, and two ovals on the udder. They give seventeen quarts, and milk eight months.

The second order are similar to the first, only smaller escutcheons, the vulva tufts are longer, and there is but one oval on the udder, on the left. The right horn of the escutcheon is smaller than the left one.

Cows of the second order give fifteen quarts, and milk seven months.

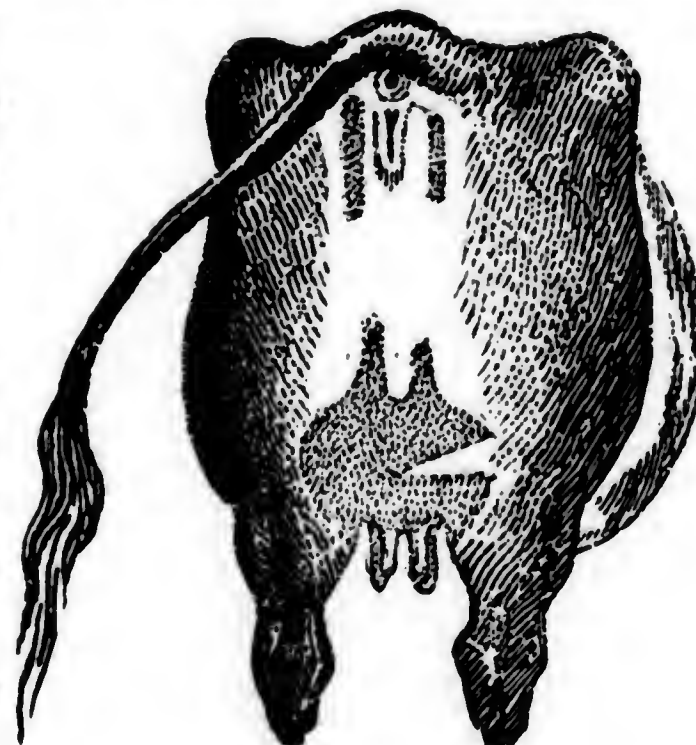
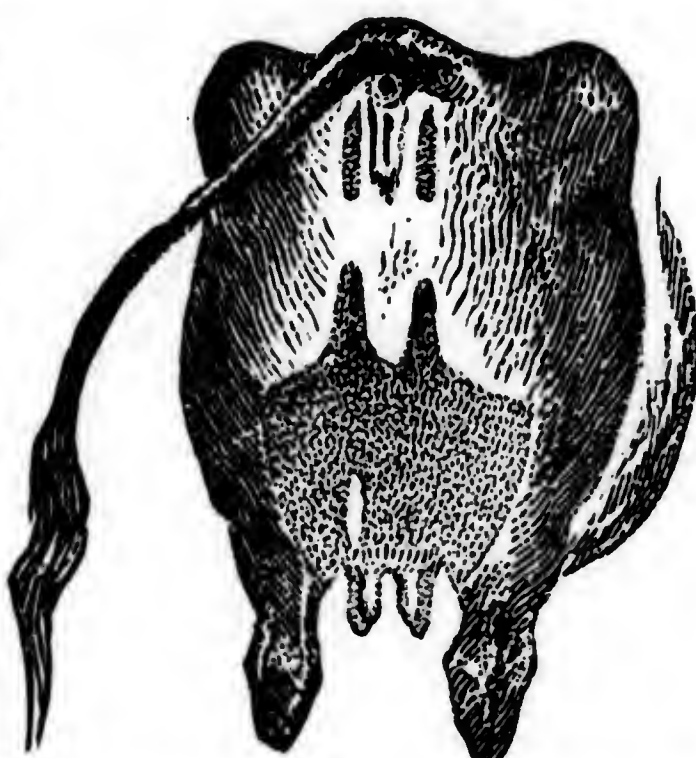


The third order have similar escutcheons to the last, but smaller, while the vulva tufts are larger, there are no ovals, and there is an invasion of the descending hair on the right side. The right is two inches shorter than the left.

Cows of the third order give thirteen quarts, and milk six months.

The fourth order have the same shaped escutcheon, but smaller, with two tufts alongside the vulva, larger than those on the last. On the right of the escutcheon is a triangular cut in the shape, made by encroachments of the down-growing hair.

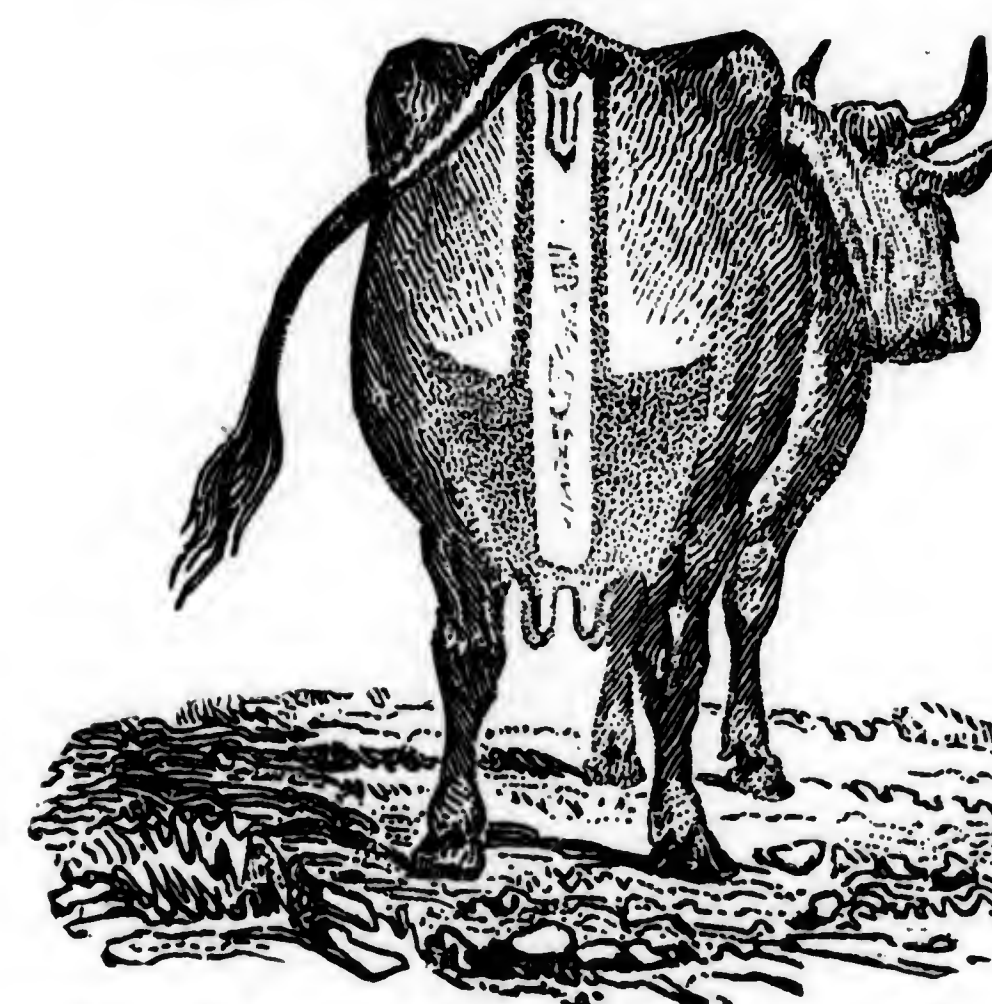
Cows of the fourth order give ten quarts, and milk five months.



The Bastards of the fifth class have the full escutcheon of the first or second orders, but with two large tufts alongside the vulva, which, according to their size, and more or less pointed shape, and fine or coarse hair, indicate the more or less stoppage of the flow of milk.



The Sixth Class. Double Selvage.



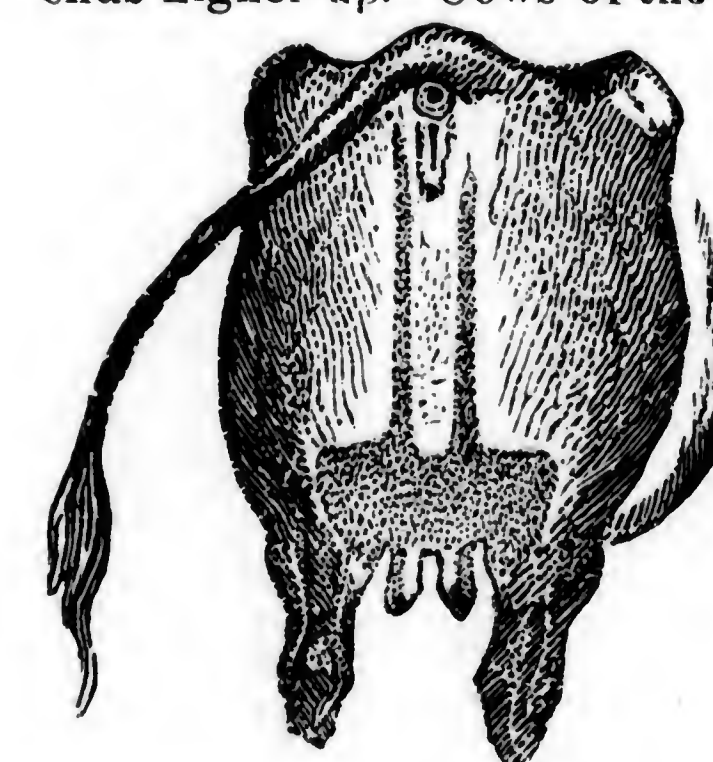
The escutcheons of Double Selvage cows differ from those of Selvage, or the third class, in that the escutcheon is marked in its whole length by a strip of hair descending and dividing it into two equal portions. It is bordered in its whole length and at the extremity by a double line of ascending hair, which extends the escutcheon up to the vulva. Otherwise it is like the selvage escutcheon.

The first order cows have a fine udder, soft, and covered with a silky

down; and its skin is yellowish or nankeen. Cows of the first order give eighteen quarts, and milk full eight months.

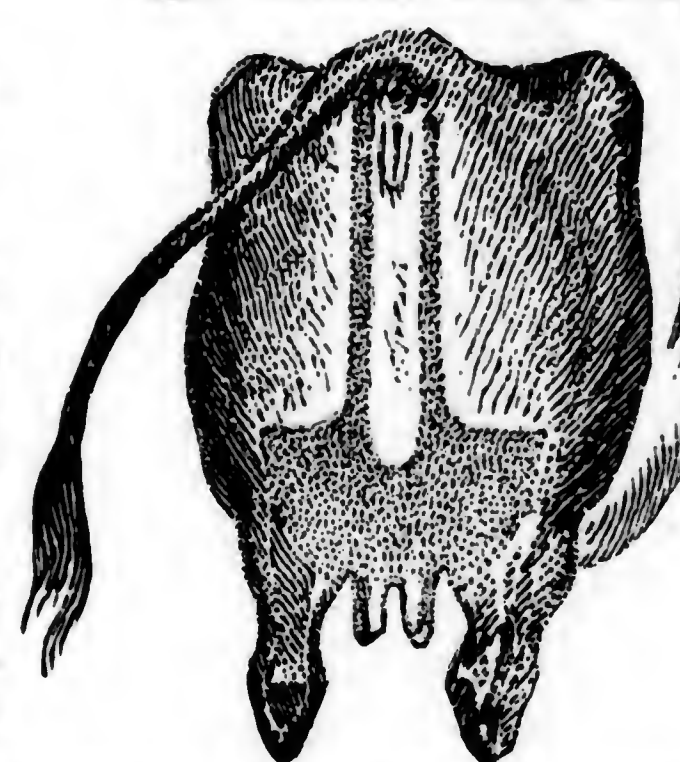
The second order have a similar escutcheon, but smaller, and the separating strip ends higher up. Cows of the second order

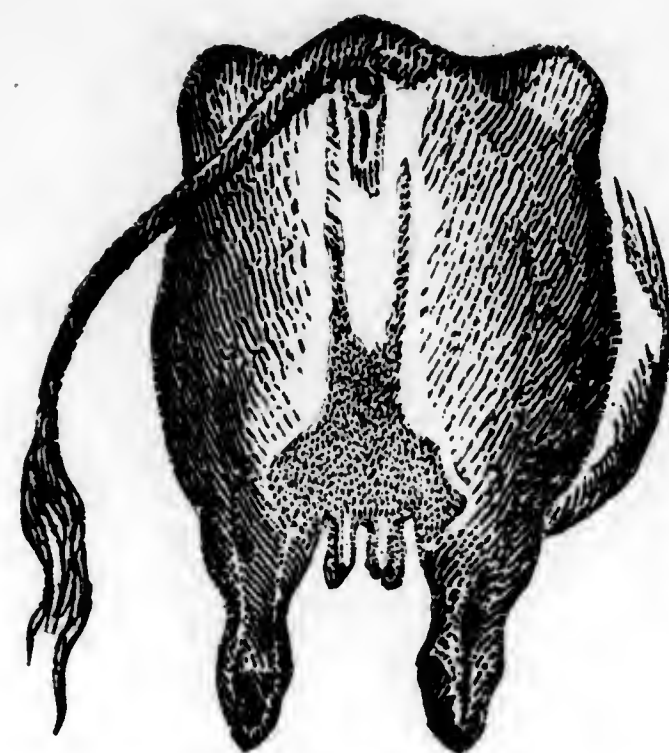
give sixteen quarts, and milk seven months.



The third order have a still more reduced escutcheon, the descending strip terminating at the udder.

Cows of the third order give fourteen quarts, and milk six months.



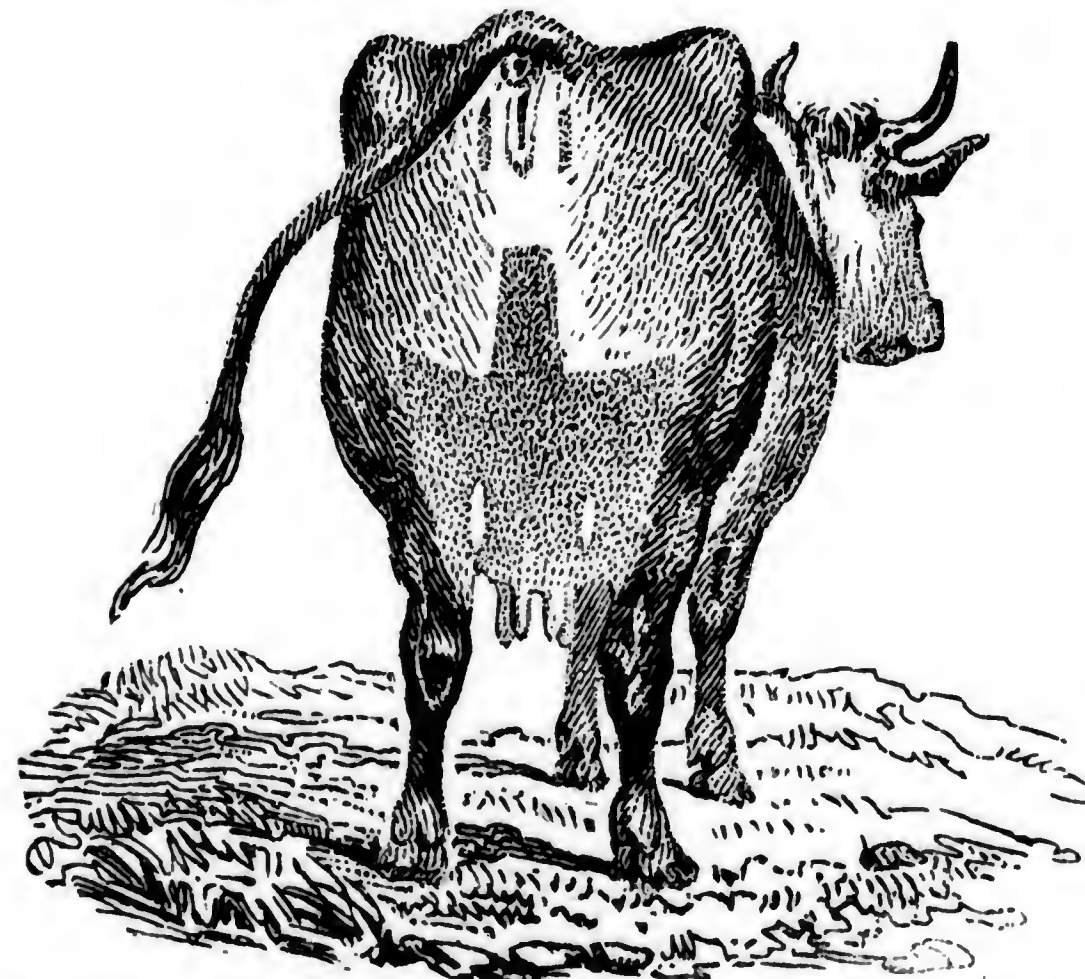


The fourth order have an escutcheon more broken in appearance, the two side lines of the selvage terminate half way to the vulva, and end off in lines of a feathery appearance, the hair is coarser and more furry. Cows of the fourth order give ten quarts, and milk five months.

Bastards of the sixth class have the escutcheon similar to the first class, but the

selvage lines terminate on each side of the vulva in tufts of coarse and bristly hair; the larger and coarser they are, the sooner the milk will fail.

The Seventh Class. Demijohn.



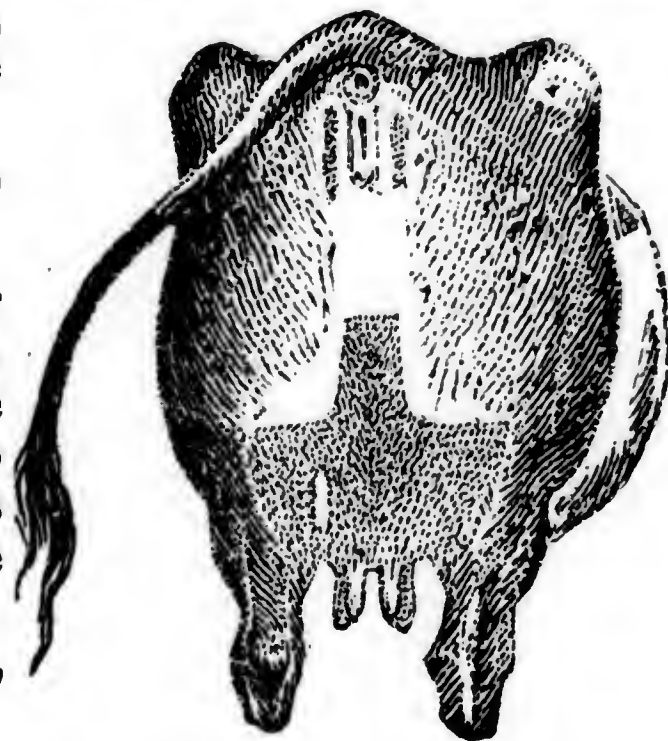
The first order of this class has the skin of the escutcheon of yellowish color. The udder is fine, and covered with a silky down to the inside of the thighs; and the dandruff is soft and oily to the touch. The shape is similar to the selvage somewhat, only the vertical mirror rises broader and straighter, and ends half way up to the vulva, cut square off. The broader and higher this part is, the better the escutcheon. The escutcheon is not so high up on the thighs as the previous

classes. There are two ovals on the udder, and two small tufts of fine hair alongside the vulva.

Cows of the first order give seventeen quarts, and milk eight months.

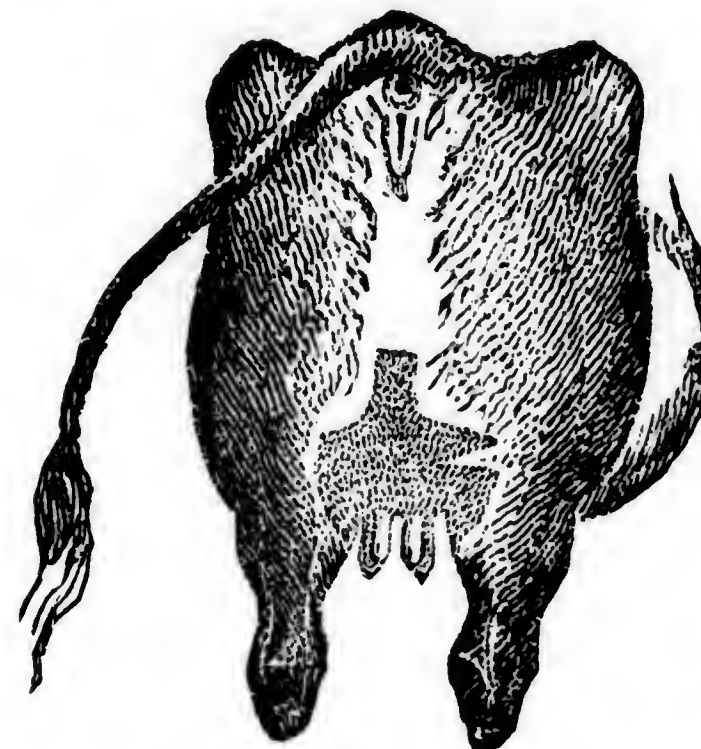
The second order have the escutcheon lower down and, of course, smaller in every way. There are two tufts alongside the vulva, the left one as large as in the first order, (two and a half inches,) the right one only half as long. There is one oval on the left of the udder.

Cows of the second order give fifteen quarts, and milk seven months.



The third order escutcheon is of different shape, the lines converging downwards from the vertical mirror, which is short, and cut off square. The right side frequently has a curved line from the descending hair invading it. The vulva tufts are longer than in the second order.

Cows of the third order give thirteen quarts, and milk six months.



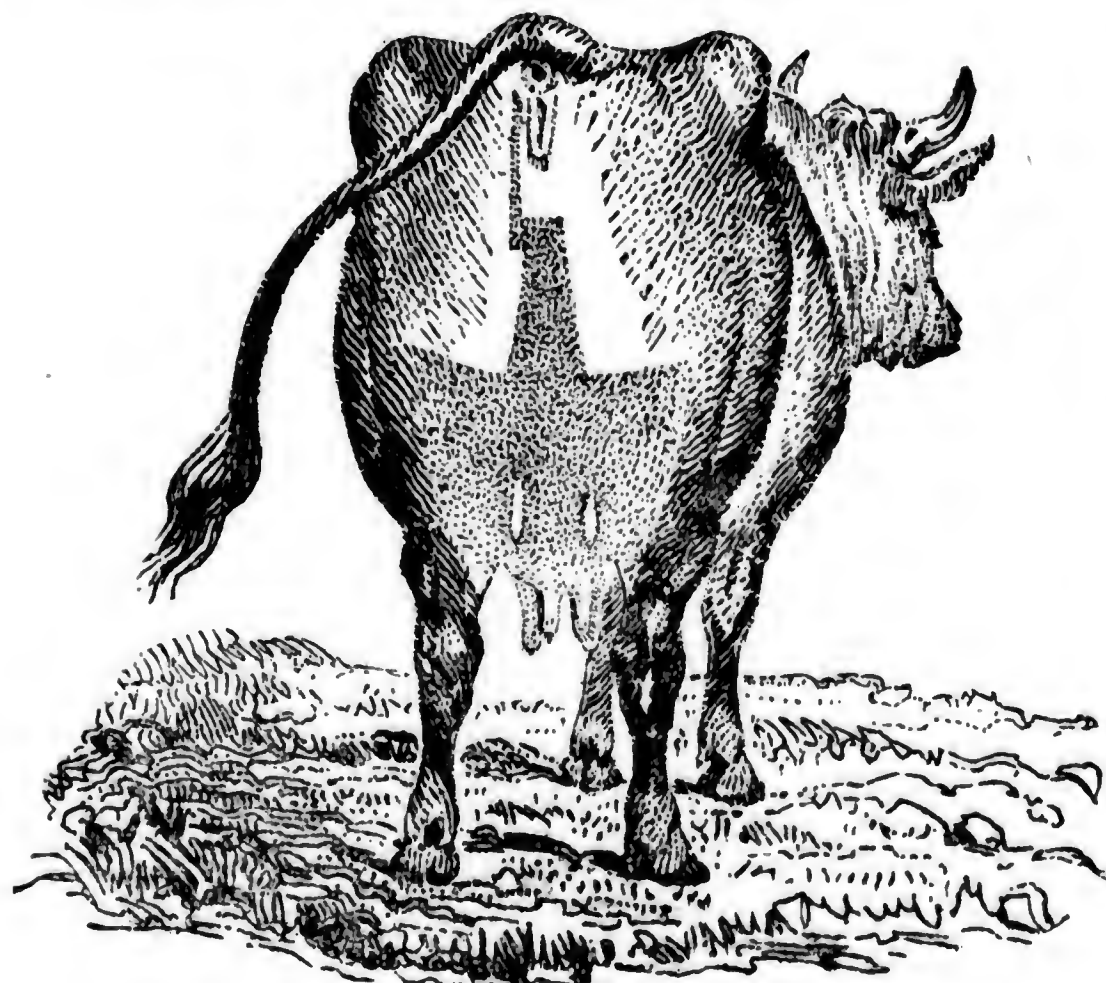
The fourth order has the escutcheon still smaller.

The tufts alongside the vulva are not so plain, but the hair is coarse and bristly. There is a triangular invasion on the right of the escutcheon.

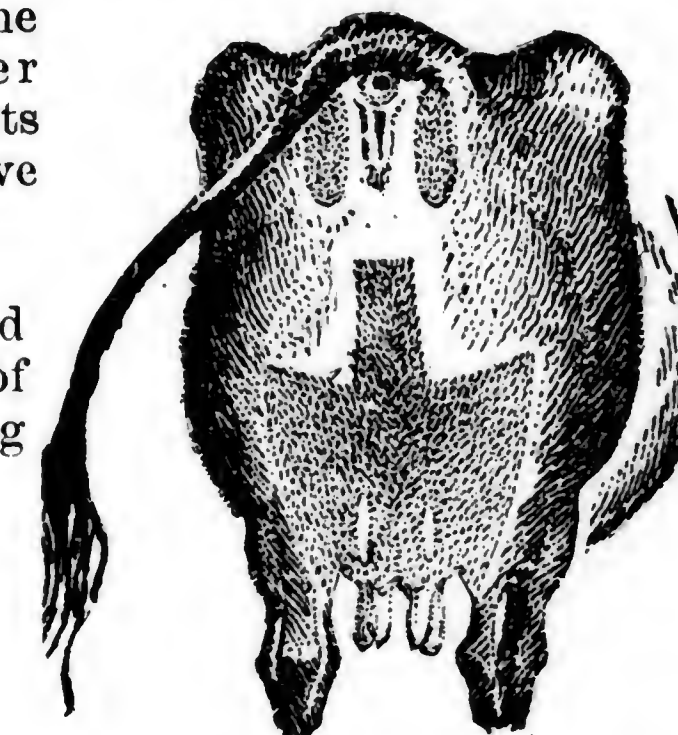
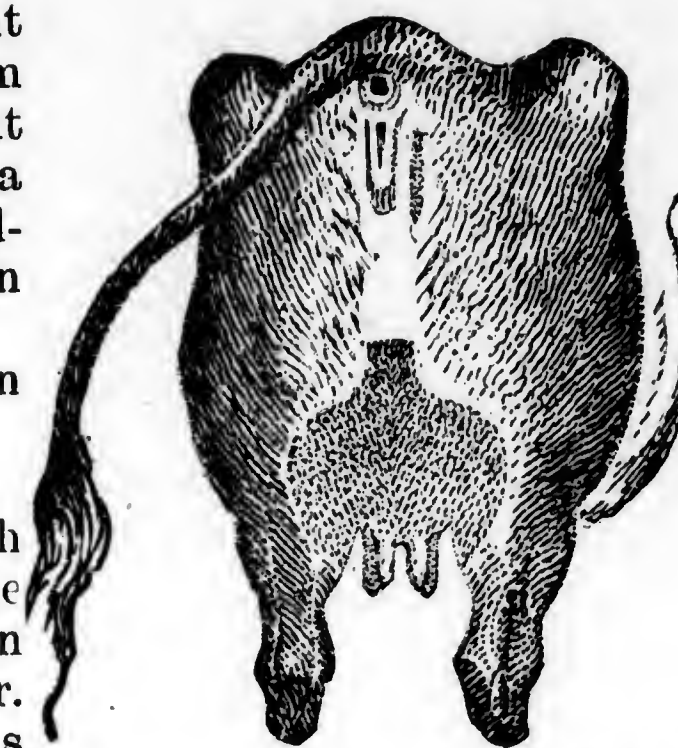
Cows of the fourth order give ten quarts and milk five months.

The Bastards of this class have a good escutcheon, but the tufts are large and of coarse, bristly hair, and will fail according to the size.

The Eighth Class. Square Escutcheon.



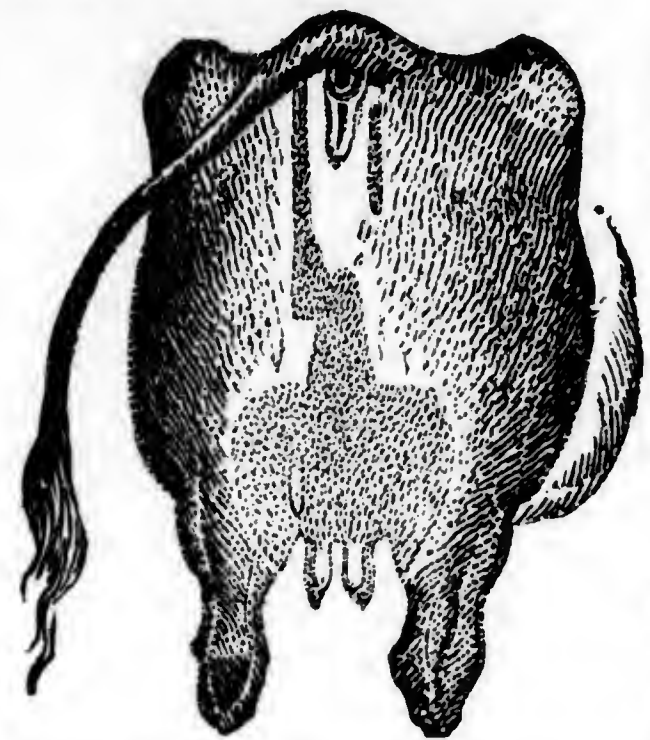
The first order of this class have the same yellowish color on the escutcheon as other first orders; the udder is flexible, covered with a short, fine down. The escutcheon is much of the shape of the Demijohns, but the vertical, as it rises, branches square off to the left, and ascends, straight and narrow, to the left side of the vulva. There are two ovals on the udder. The more the square approaches the vulva, and the finer the hair, the greater quan-



tity is there of milk. Cows of the first order give seventeen quarts, and milk eight months.

The second order have a similar escutcheon, only smaller in every way. They have two ovals on the udder, and a small tuft to the right of the vulva.

Cows of the second order give fifteen quarts, and milk seven months.

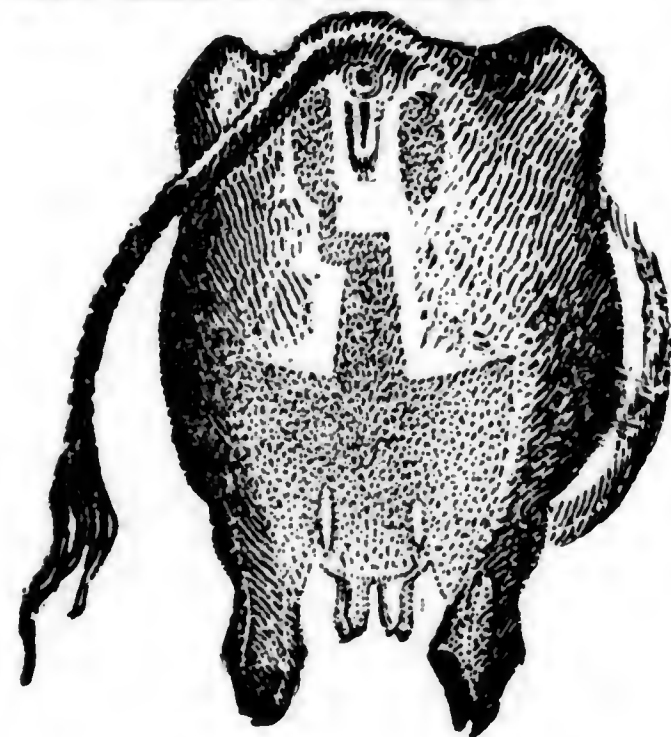


The third order have the escutcheon still smaller; the lines curving downward at the corners; one oval on the udder, and the tuft to the right of the vulva, larger and of coarser hair.

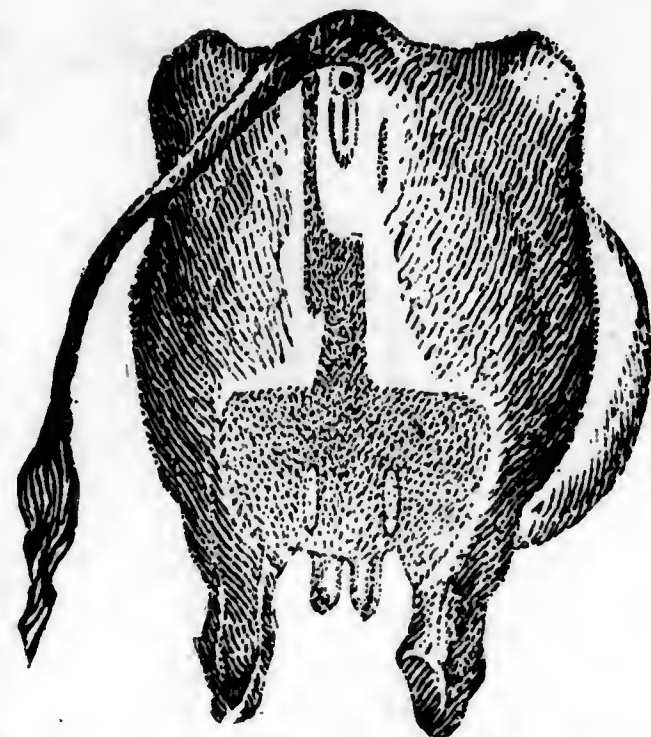
Cows of the third order give thirteen quarts, and milk six months.

The fourth order have the escutcheon much smaller, the square is much lower, and the upper part of it is formed of bristly hair, and feathery looking; as is also the tuft to the right. On the right side of the escutcheon is an invasion of triangular shape.

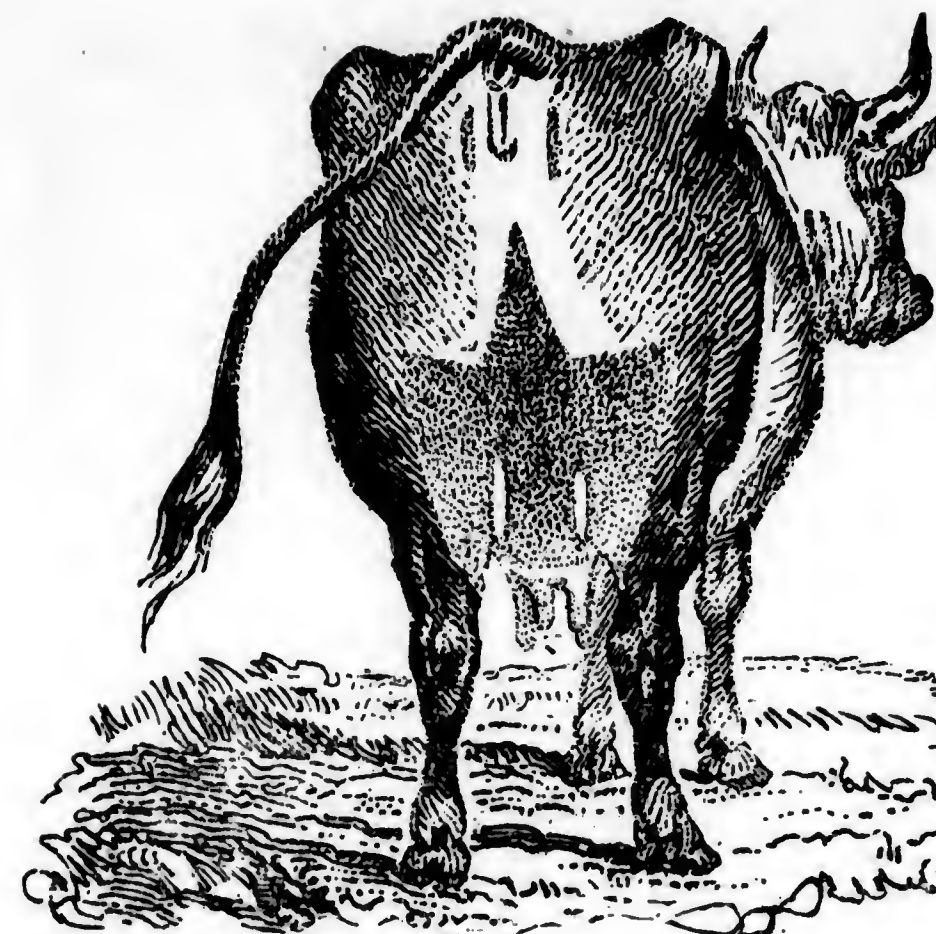
Cows of the fourth order give ten quarts, and milk five months.



The Bastards of the eighth class are distinguished from those of the first order by the tuft on the right, which is of coarse and bristly hair, and the square terminates also in the same hair.



The Ninth Class. Limousines.



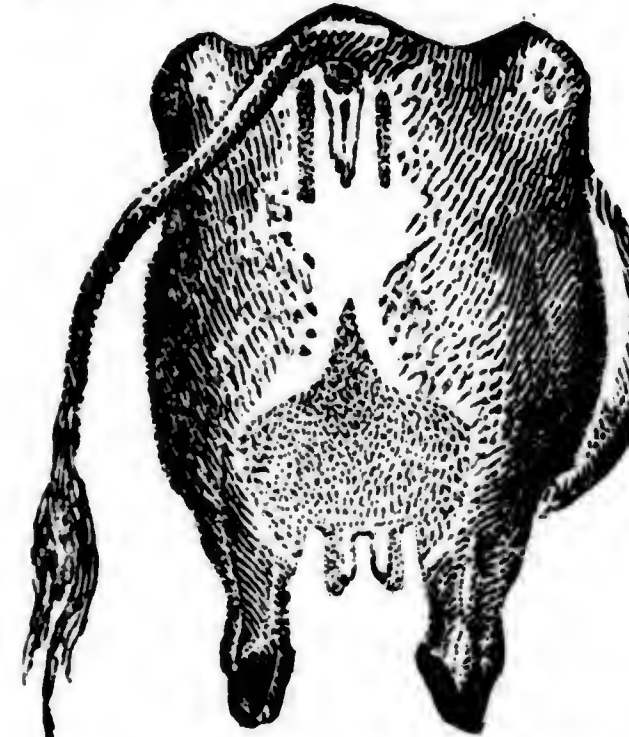
The escutcheons of this class, in ascending toward the vulva, do so in the shape of a spire, but stop short about half way.

The first order has the escutcheon of yellowish color, with flexible udder, covered with hair downy and silky. The shape is the same as the seventh and eighth class, except that the vertical escutcheon ends in a sharp point, like a spire or arrow head. There are tufts along each side of the vulva, and two ovals on the udder.

Cows of the first order give fifteen quarts, and milk eight months.

The second order is similar in the escutcheon, but smaller, with but one oval on the udder, and the vulva tufts larger, the left being longer than the right.

Cows of the second order give thirteen quarts, and milk seven months.

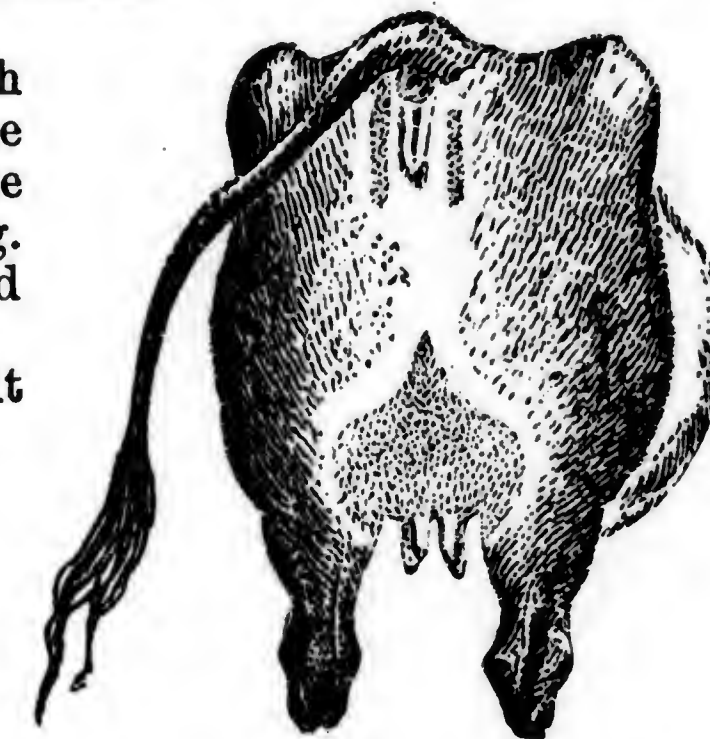
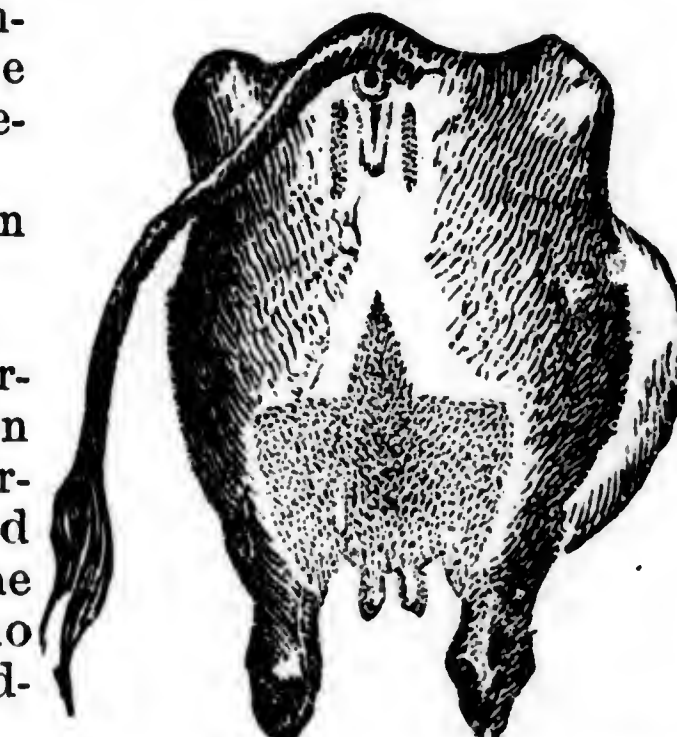


The third order is again smaller; the corners rounded downward; the tufts larger; no oval on the udder.

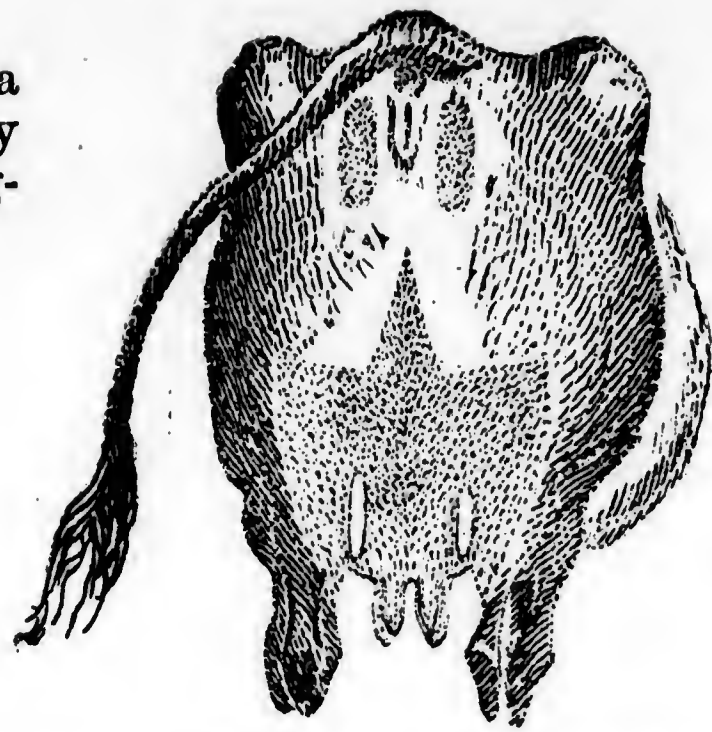
Cows of the third order give ten quarts, and milk six months.

The fourth order same shape as the last, but still smaller and more rounding. The vulva tufts are of bristly hair, and the left one is seven inches long.

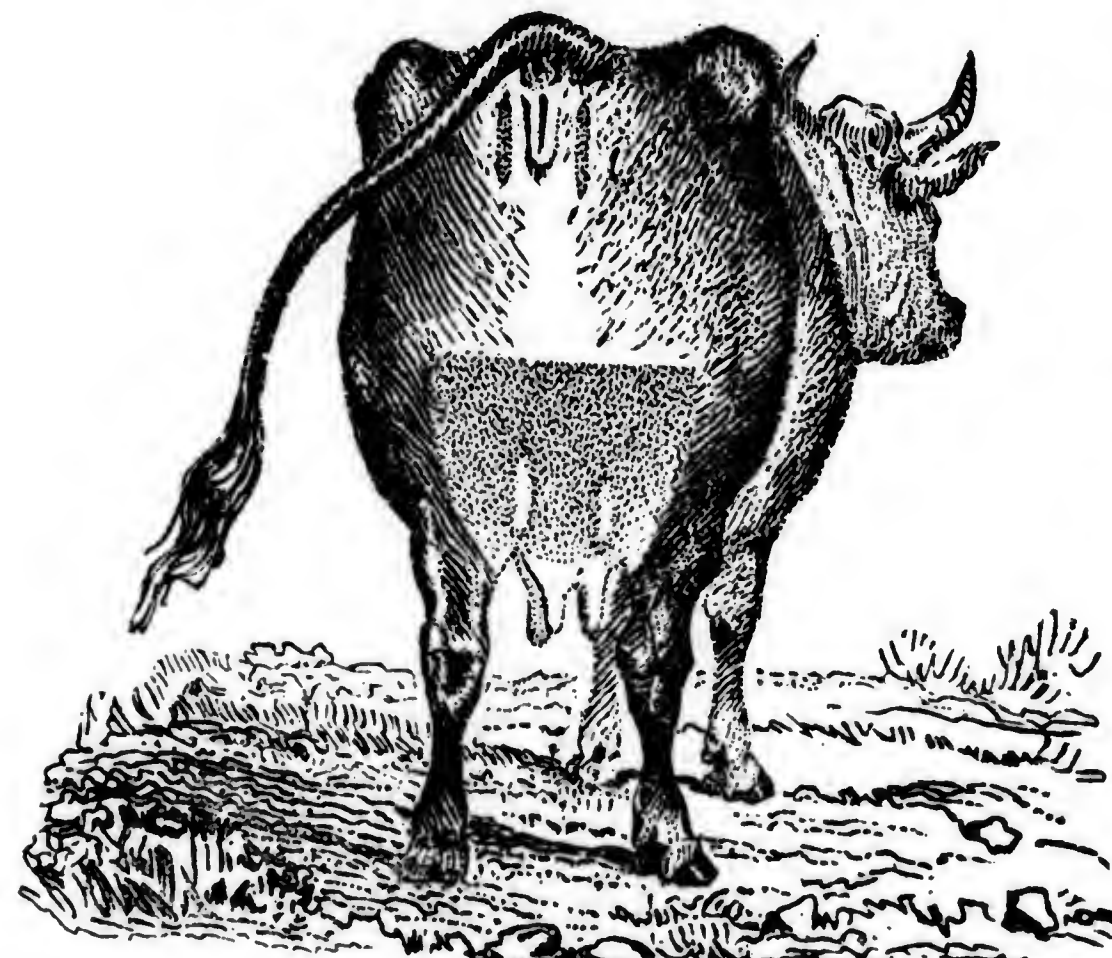
Cows of the fourth order give eight quarts, and milk five months.



The Bastards of the ninth class have a good escutcheon, but are distinguished by the large tufts of coarse, bristly hair alongside the vulva.



The Tenth Class.—Horizontal.

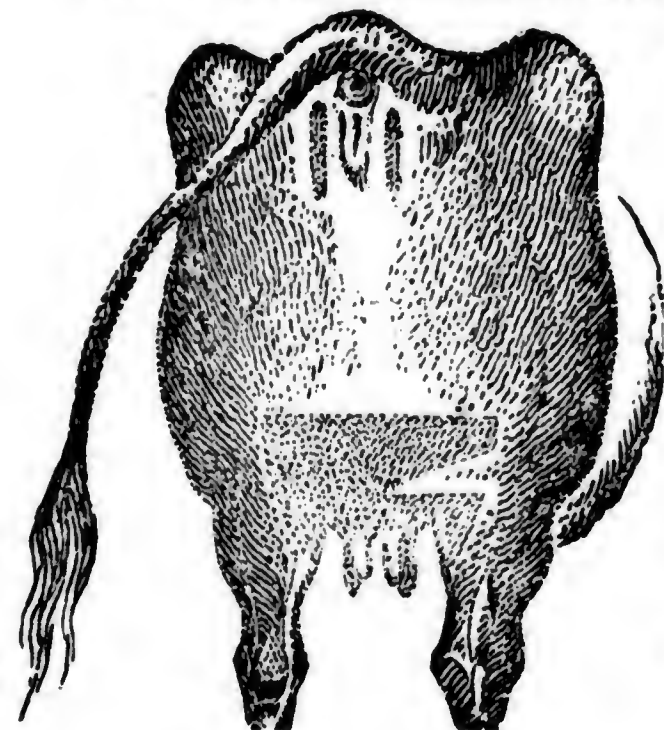


The first order have a dandruff of yellowish color; the hair is short, fine, and silky; the escutcheon is lower down from the vulva than the other classes, and is cut off by a horizontal line. There are two ovals on the udder; and two tufts, about three and one half inches long, on the sides of the vulva.

Cows of the first order give thirteen quarts, and milk eight months.

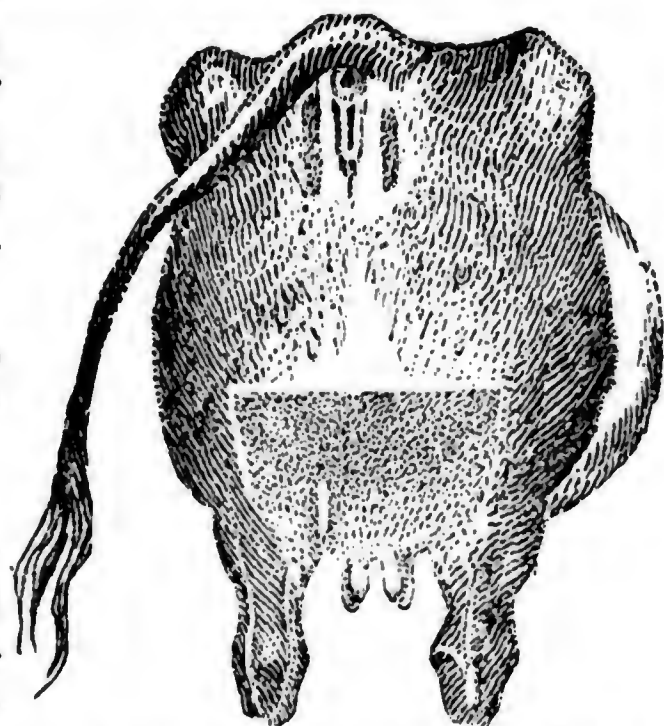
The second order has a smaller escutcheon; the vulva tufts are larger, the right shorter than the left; there is but one udder oval; in several of the orders of this class there is a small streak of ascending hair directly below the vulva.

Cows of the second order give ten quarts, and milk seven months.



The third order have still smaller escutcheons; larger vulva tufts, the one on the left of bristling hair, four to five inches in length. The descending hair encroaches on the escutcheon on the right in a triangular shape.

Cows of the third order give eight quarts, and milk six months.

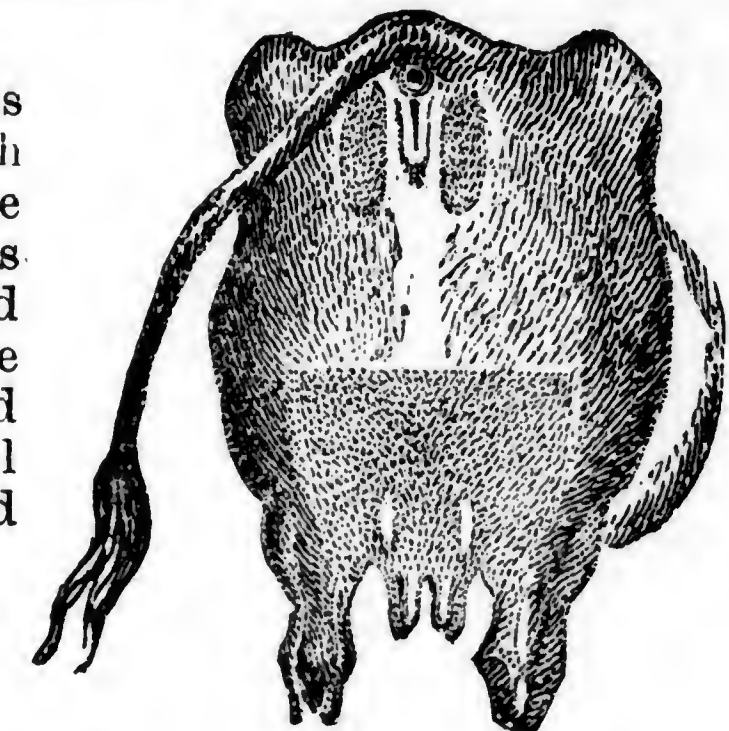
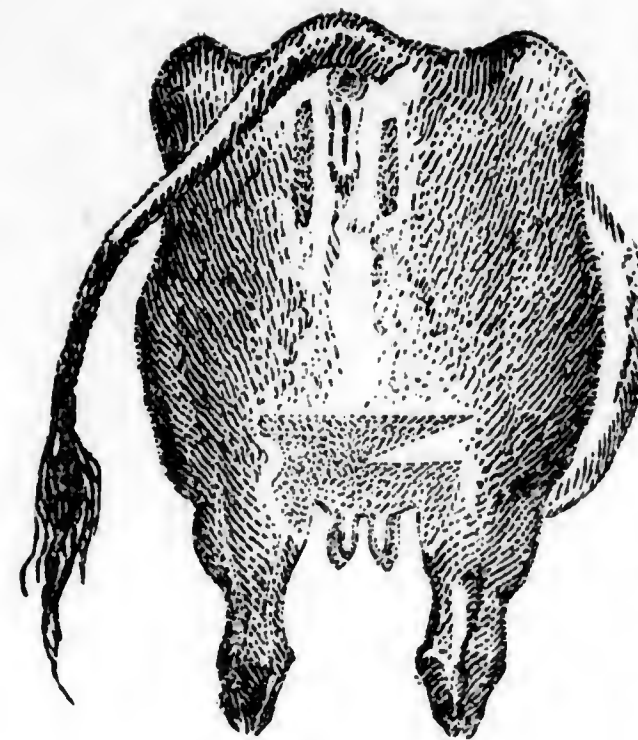


The fourth order have still smaller escutcheons; larger and coarser vulva tufts; and an invasion on the escutcheon on the right in triangular shape, and on the left of semi-circular shape.

Cows of the fourth order give seven quarts, and milk five months.

The bastards of the tenth class have the escutcheons large and good shaped; but are distinguished

by the tufts alongside the vulva, these tell how long she will milk, by their size and the grade of the hair on them.

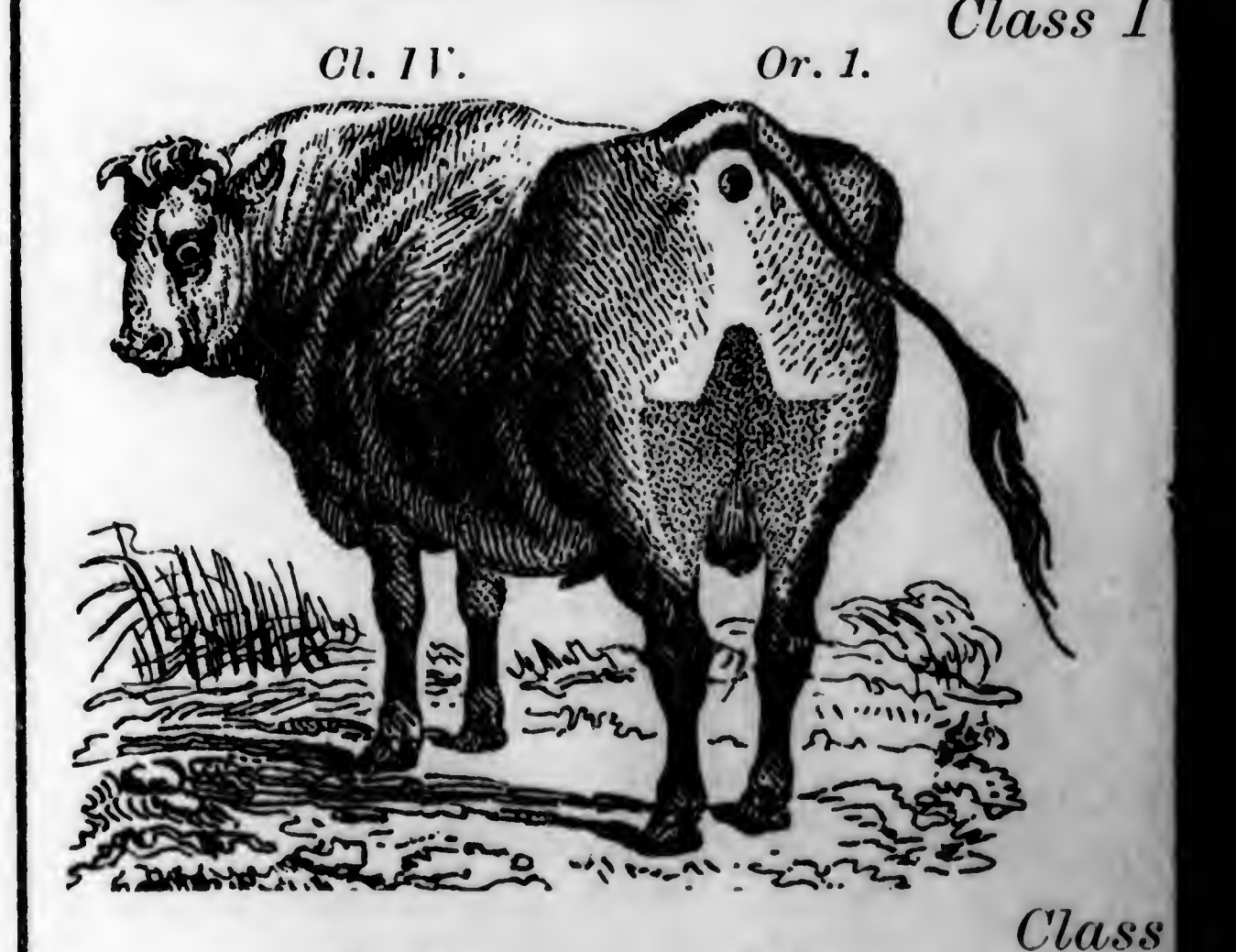
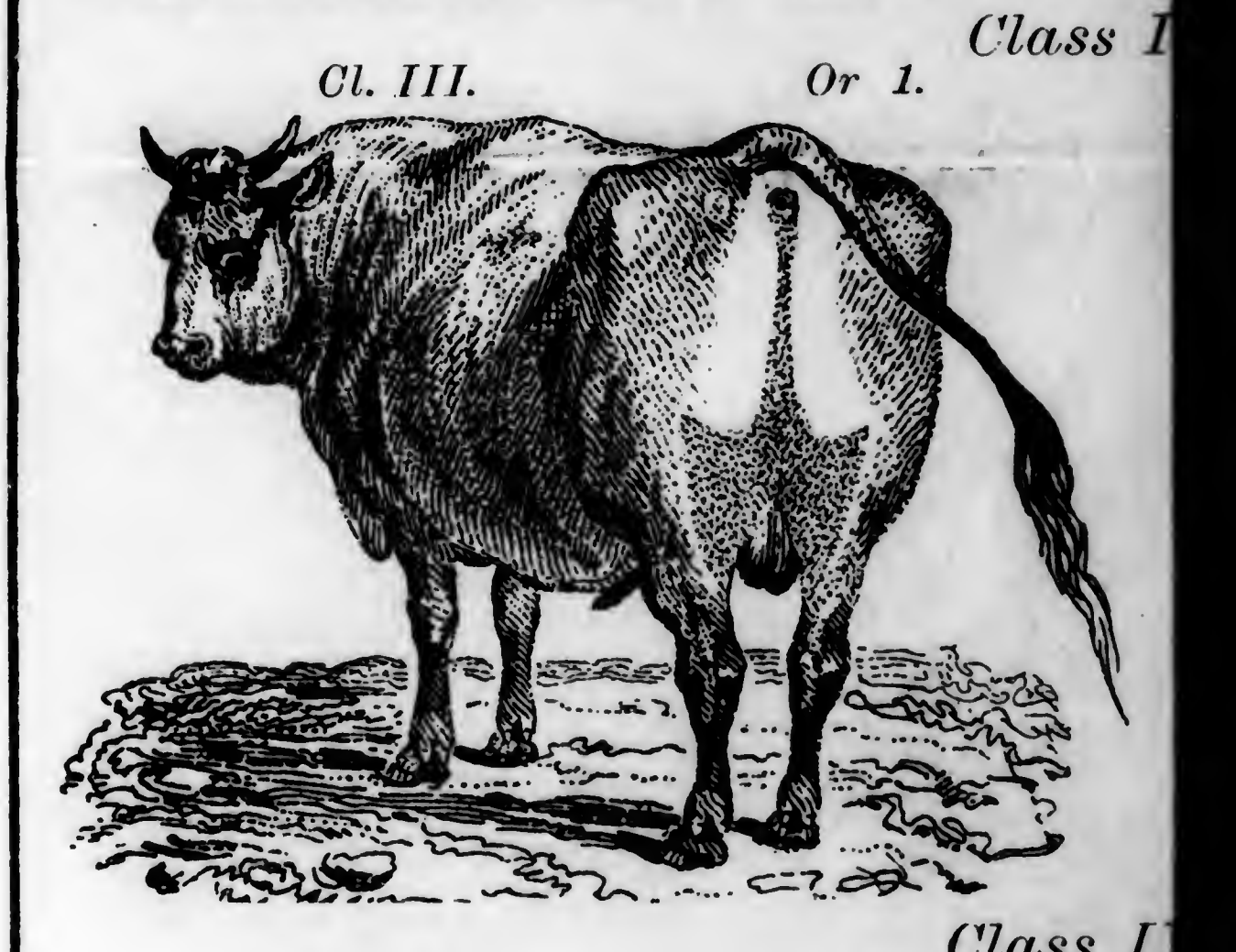
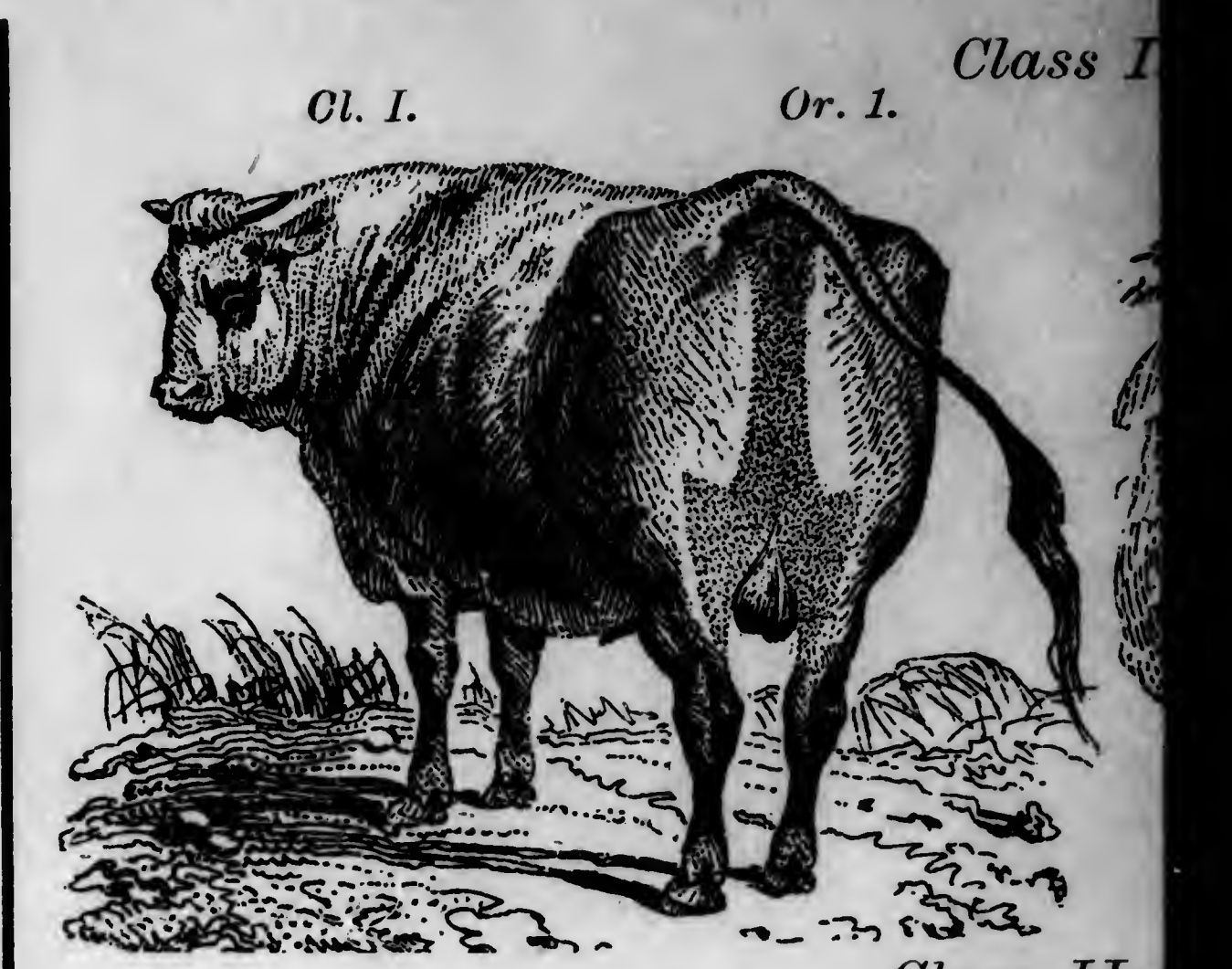
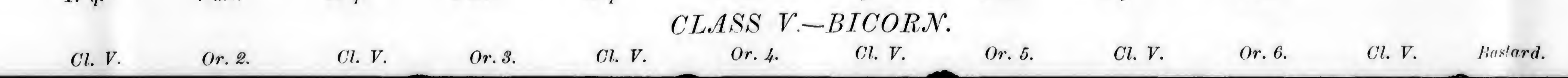
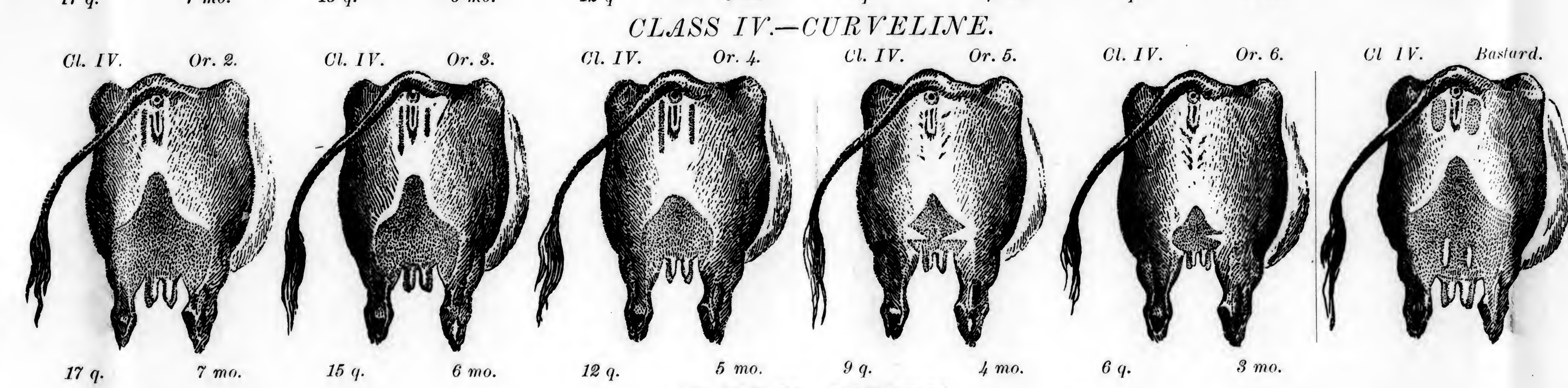
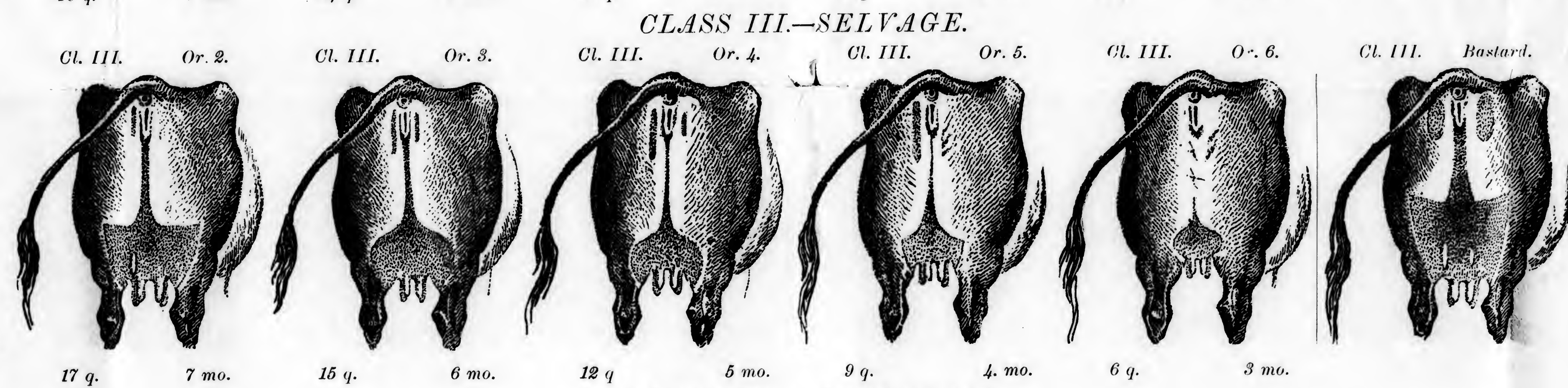
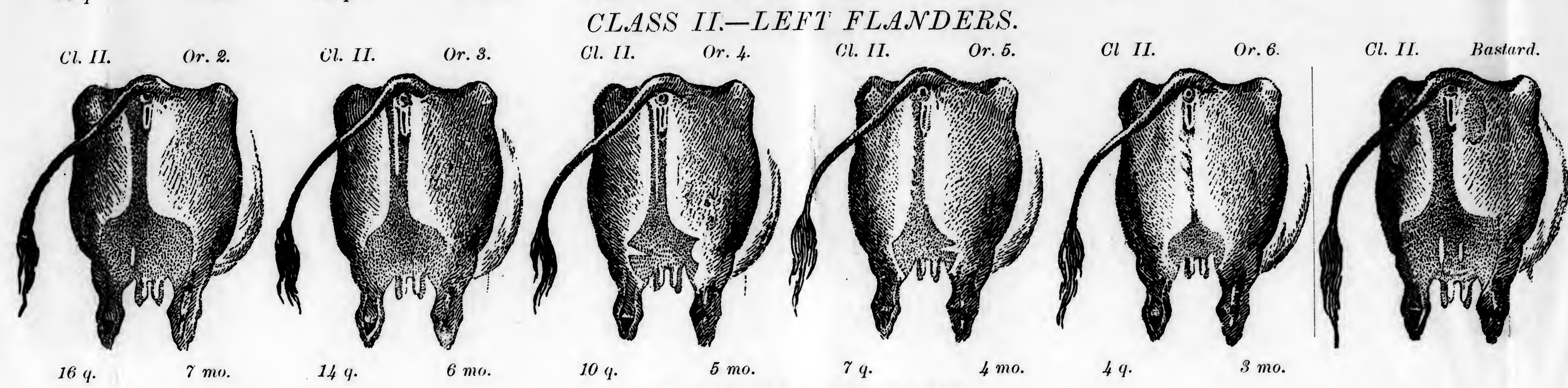
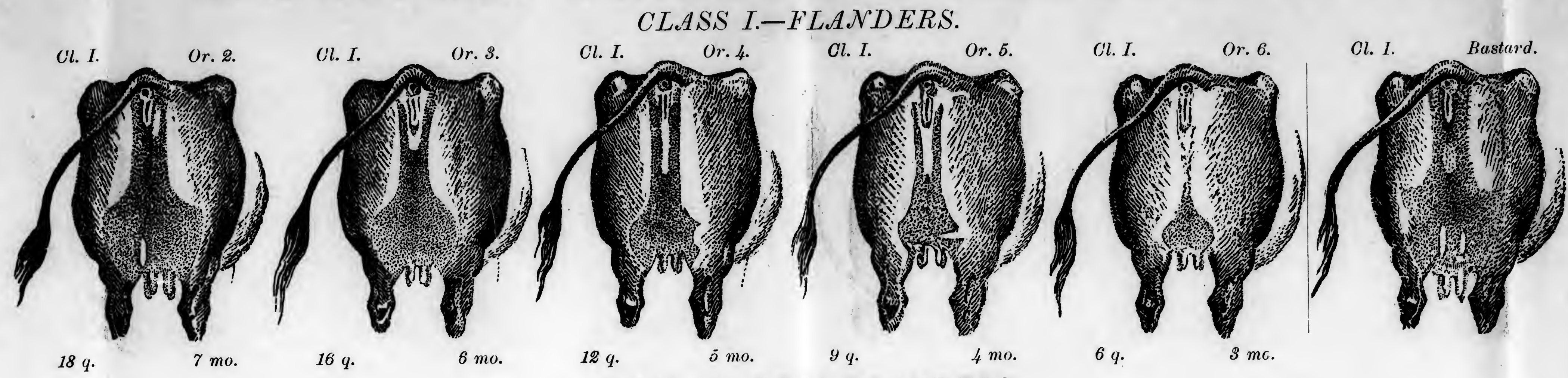
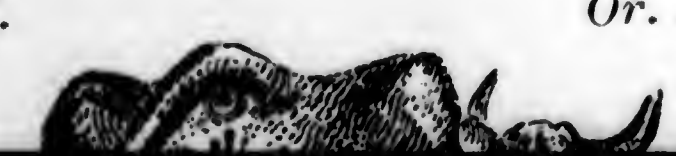
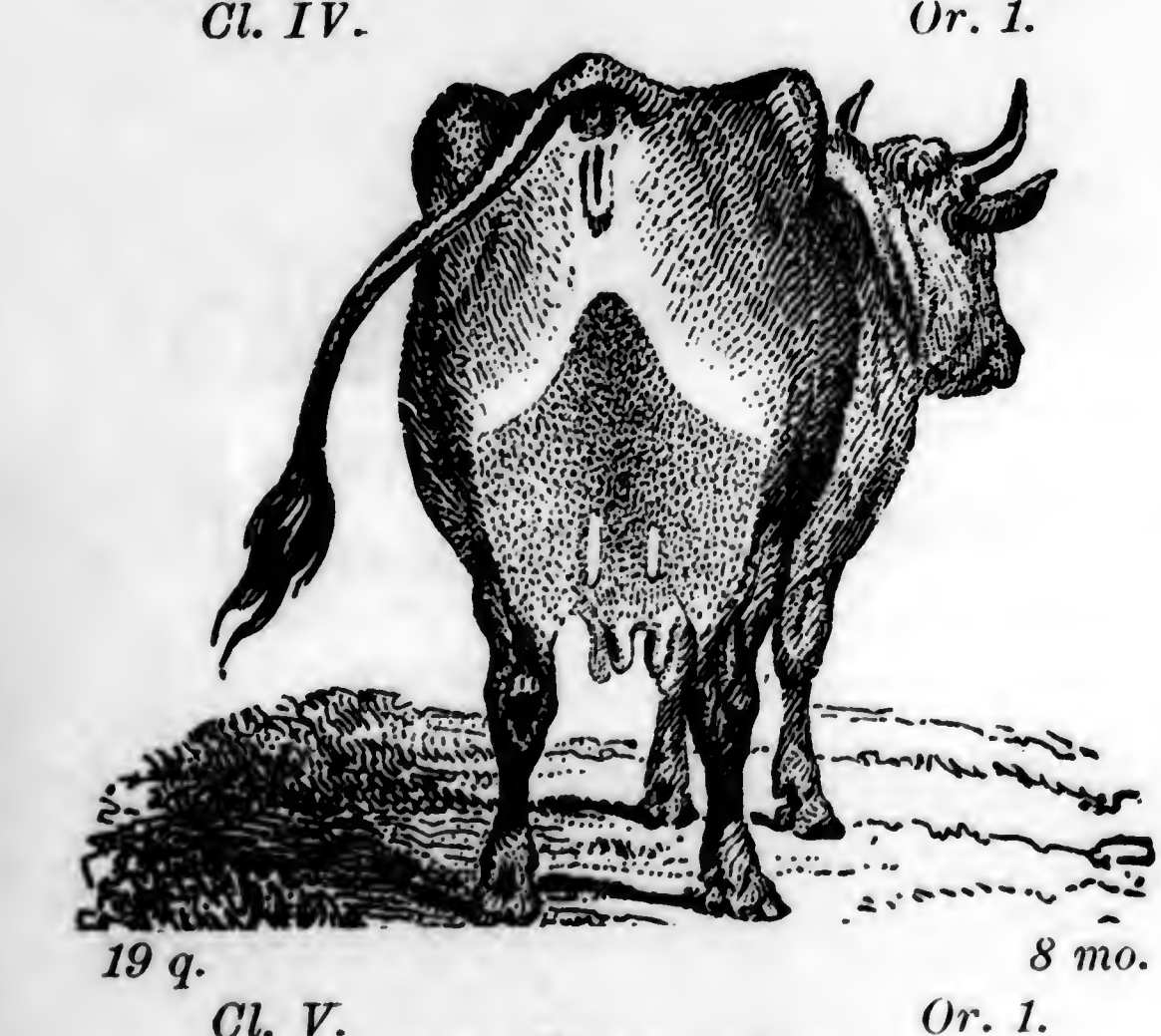
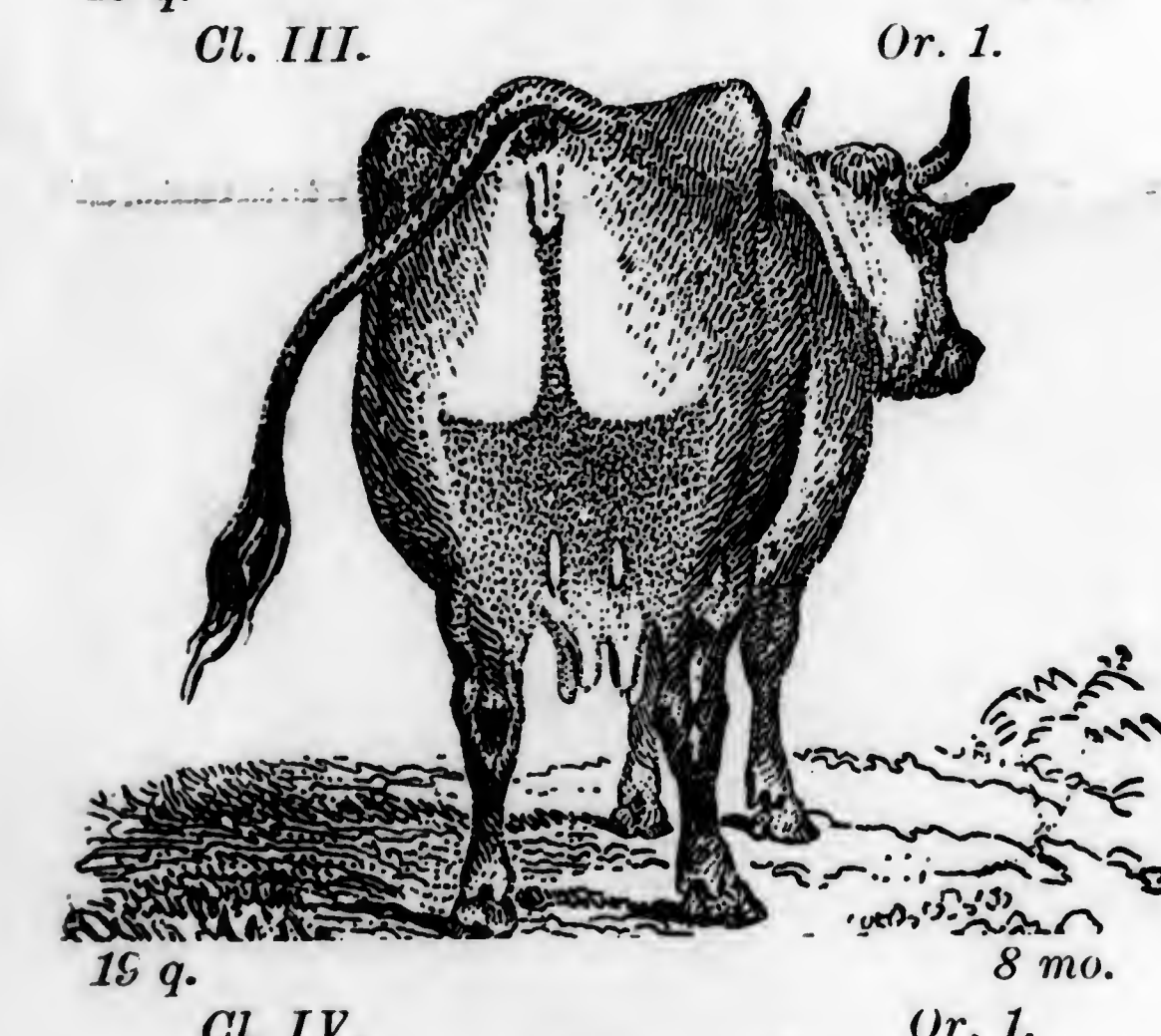
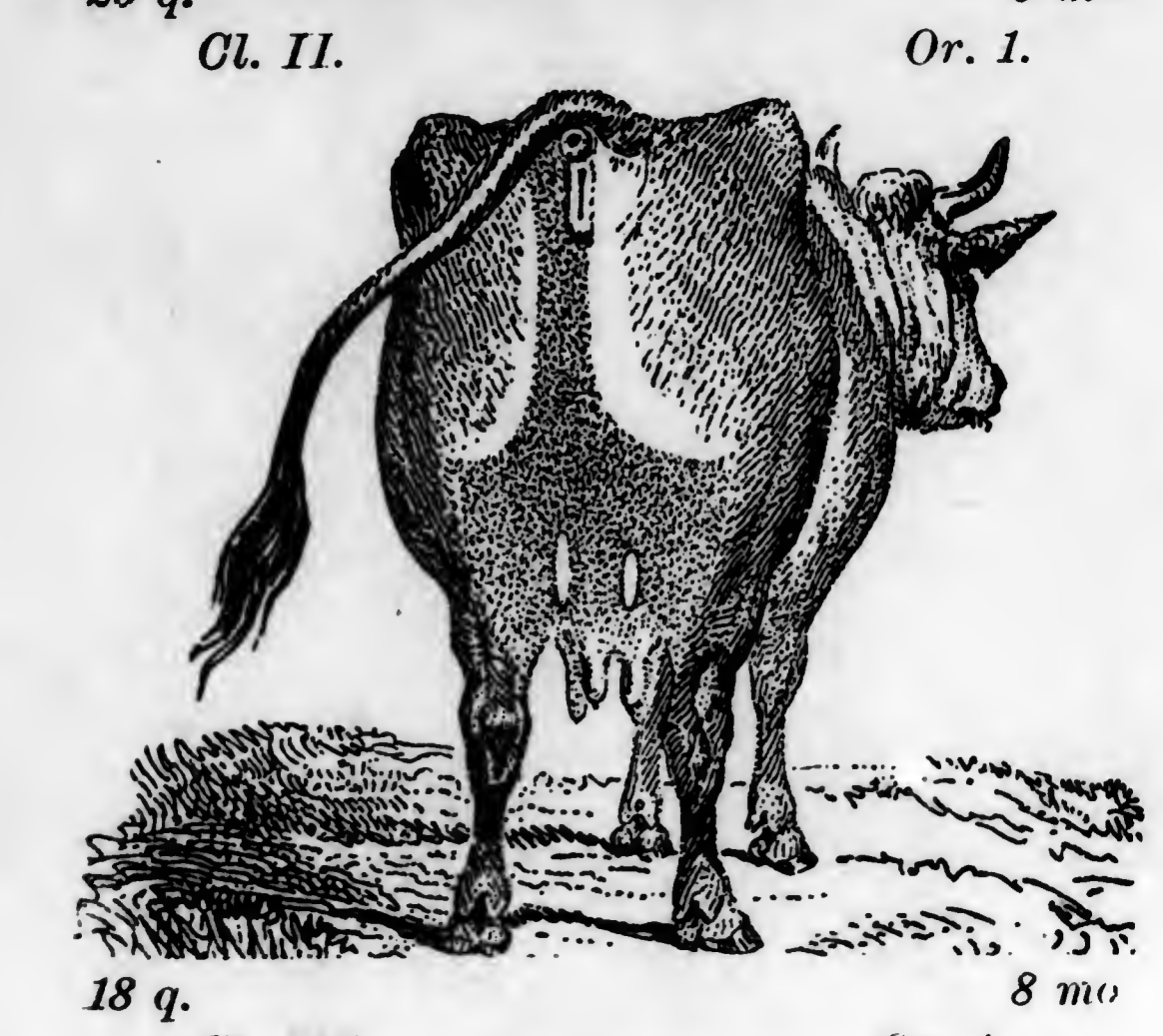
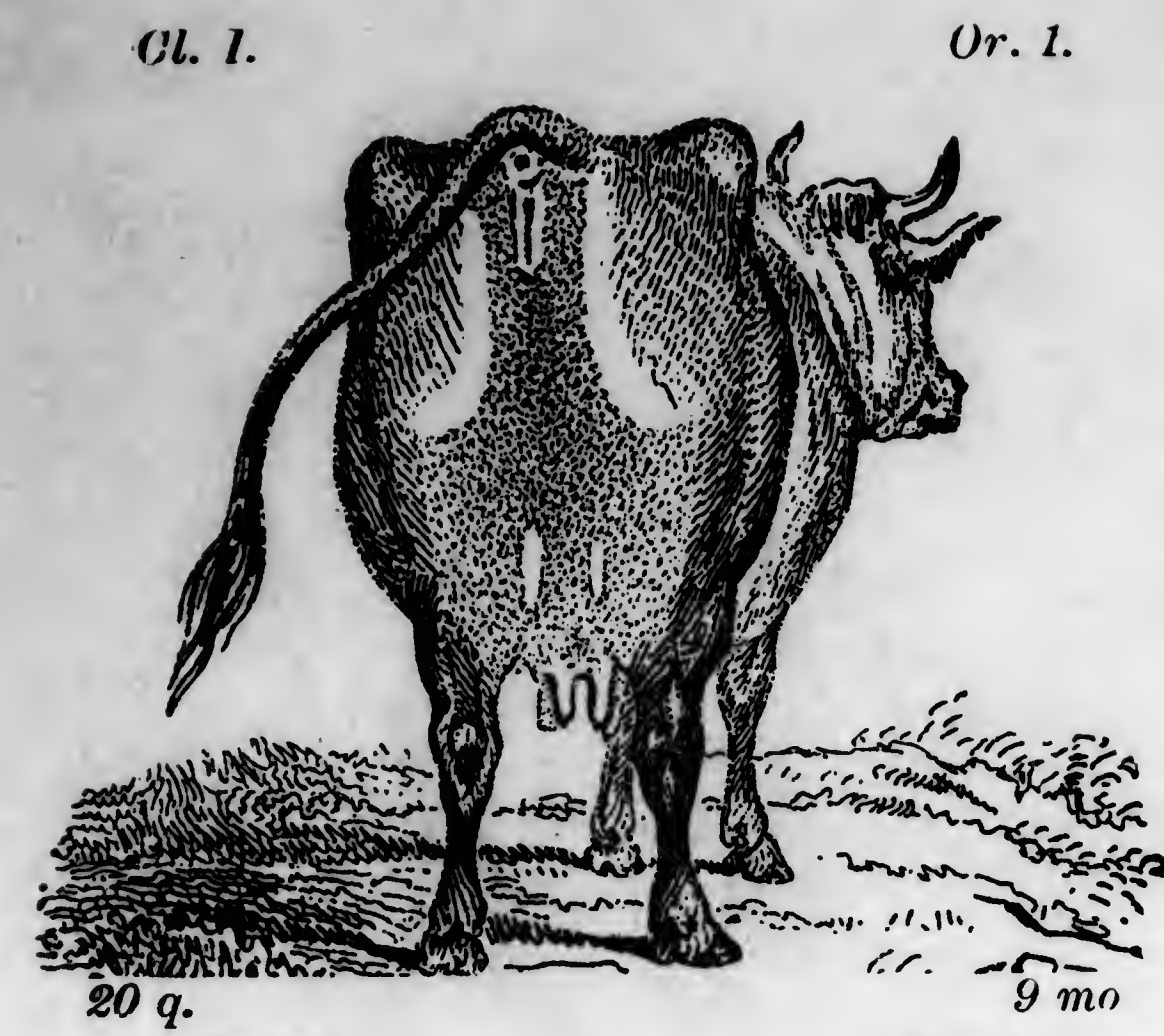


Escutcheons on Bulls.

Guenon applied his discovery to bulls to great advantage. He found that bulls belonged to the same classes as cows, and had escutcheons similar, but much smaller; these extend from the testicles upward toward the anus. The importance of having a good bull becomes apparent when we reflect that he "gets" from fifty to one hundred, annually, while the cow is impregnated but once in the year. The escutcheons of the progeny of a cow with good escutcheon will be much improved if the cow is coupled with a bull well marked, and particularly if his escutcheon is the same as that of the cow. Better have the two of different breeds, but of similar or good escutcheons, than to have the bull with inferior escutcheon.

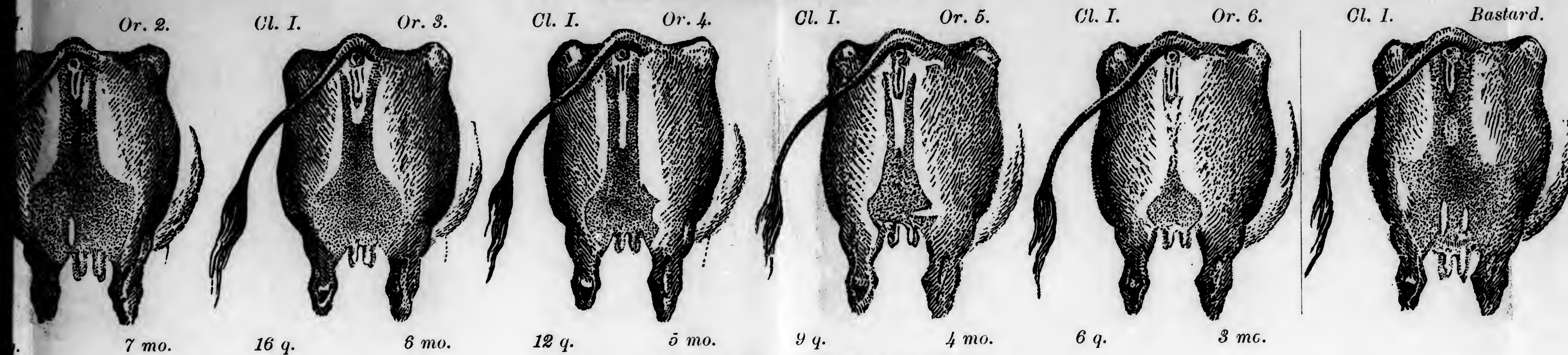
Of course, the higher up the escutcheon extends on a bull, and the broader it is, the better it is, but we must not look for bulls to be so well-marked as cows are, for they never are. To distinguish the bastard bulls from the good ones, observe if there are any streaks of descending hair, and mixing so as to be bristly. This indication will be a certain one in proportion to the size of the blemish, and as that is in proportion to the whole escutcheon.

GUENON CLASSIFICATION OF ESCUTCHEONS.

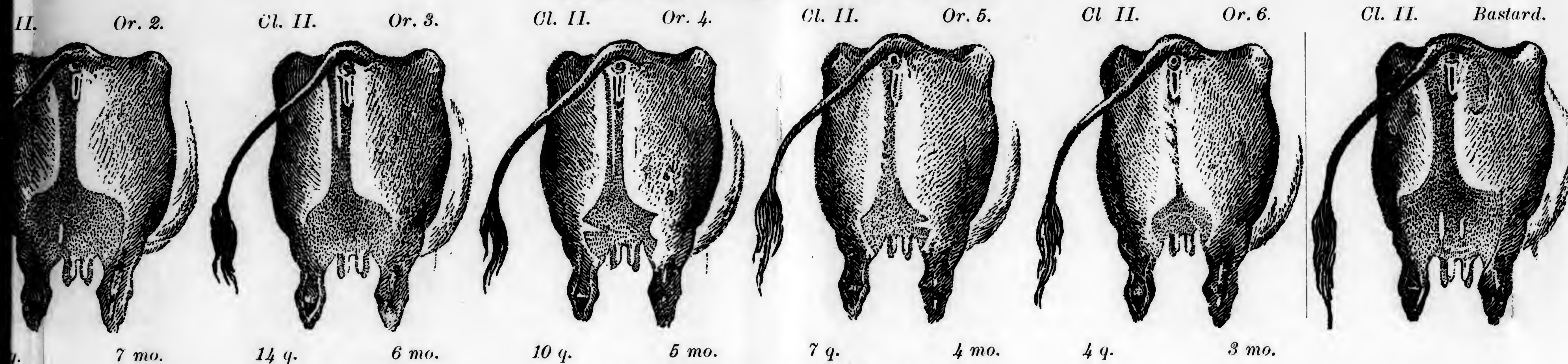


GUENON CLASSIFICATION OF ESCUTCHEONS.

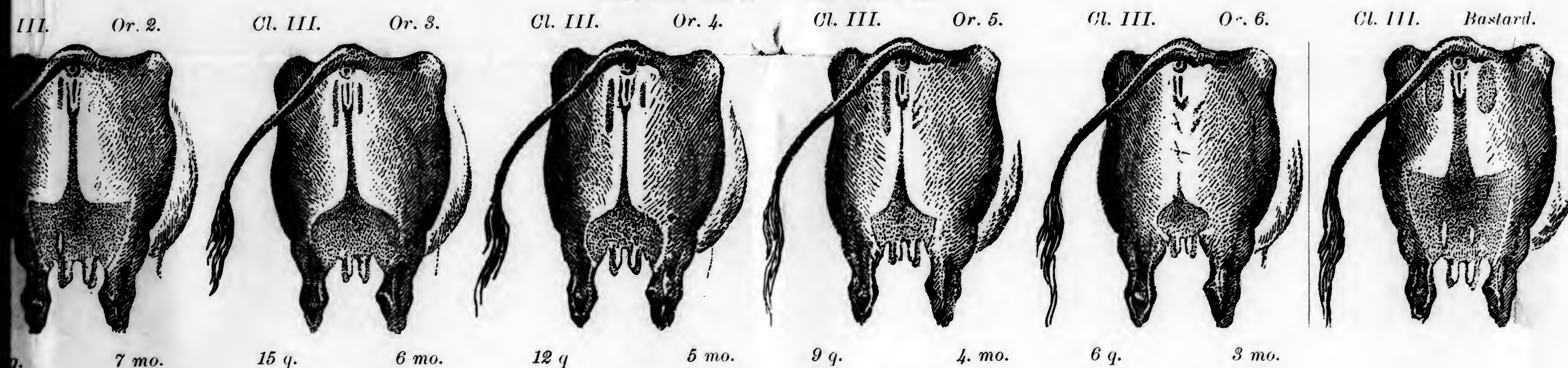
CLASS I.—FLANDERS.



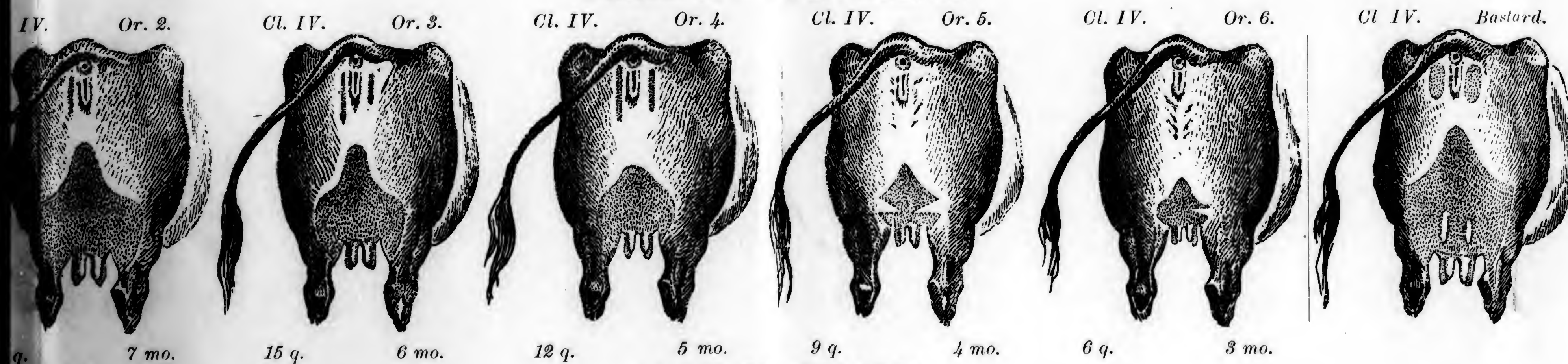
CLASS II.—LEFT FLANDERS.



CLASS III.—SELVAGE.



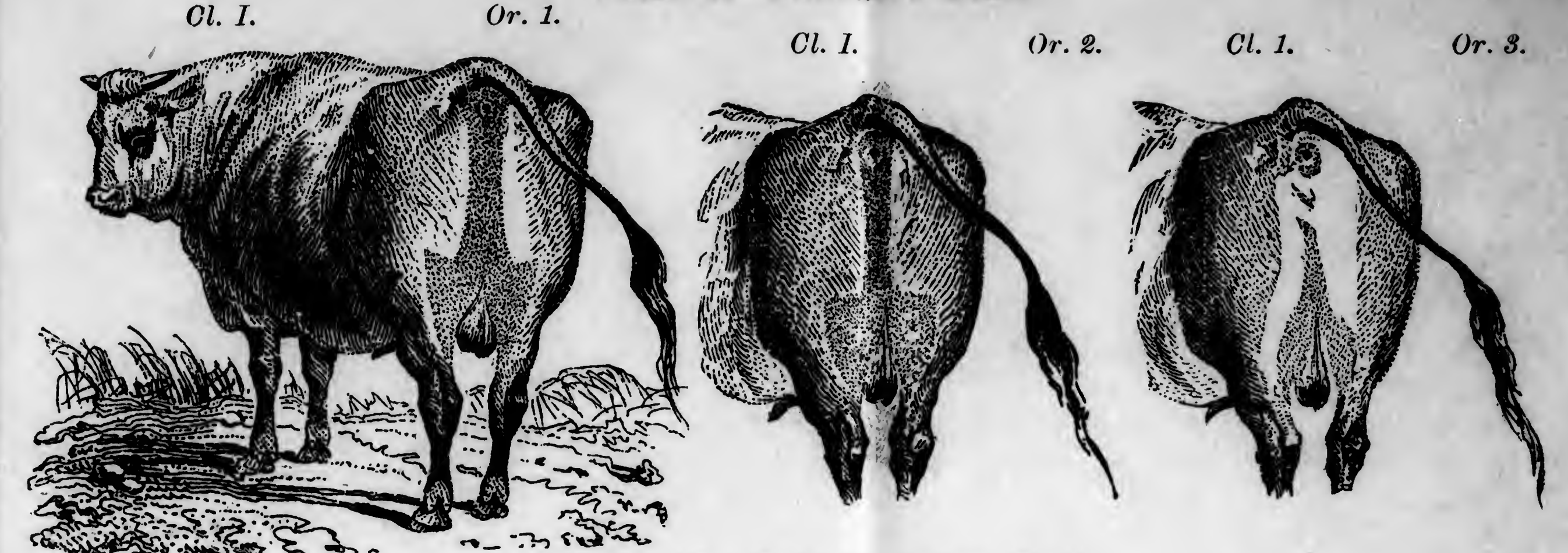
CLASS IV.—CURVELINE.



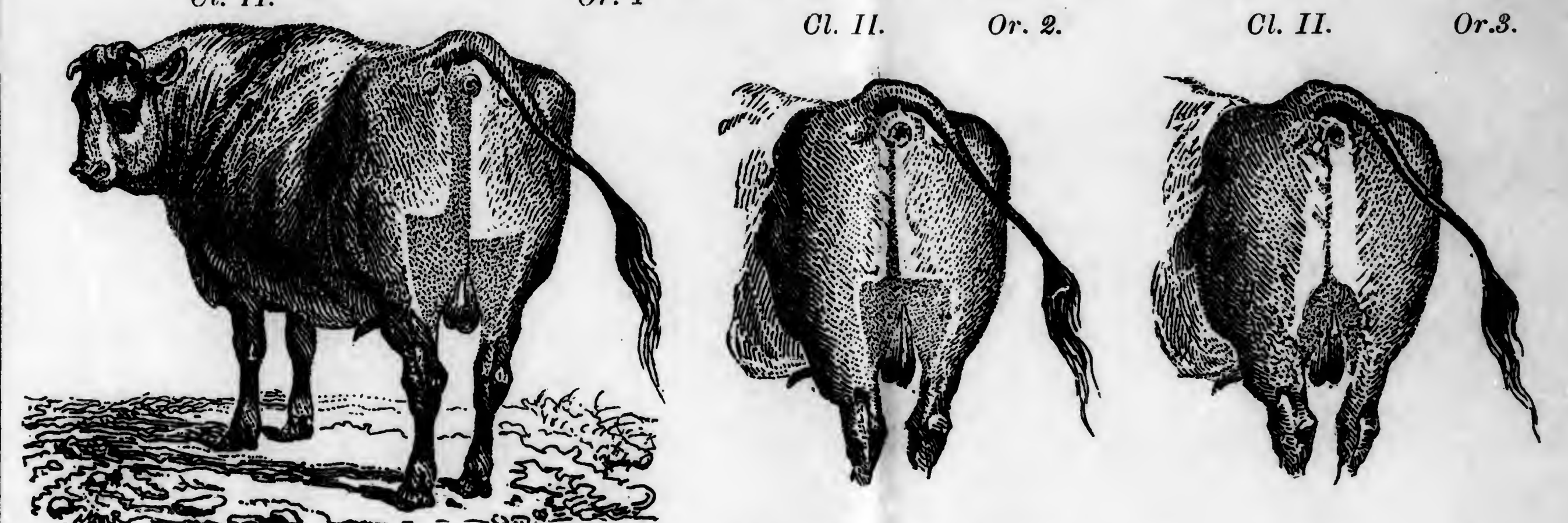
CLASS V.—BICORN.



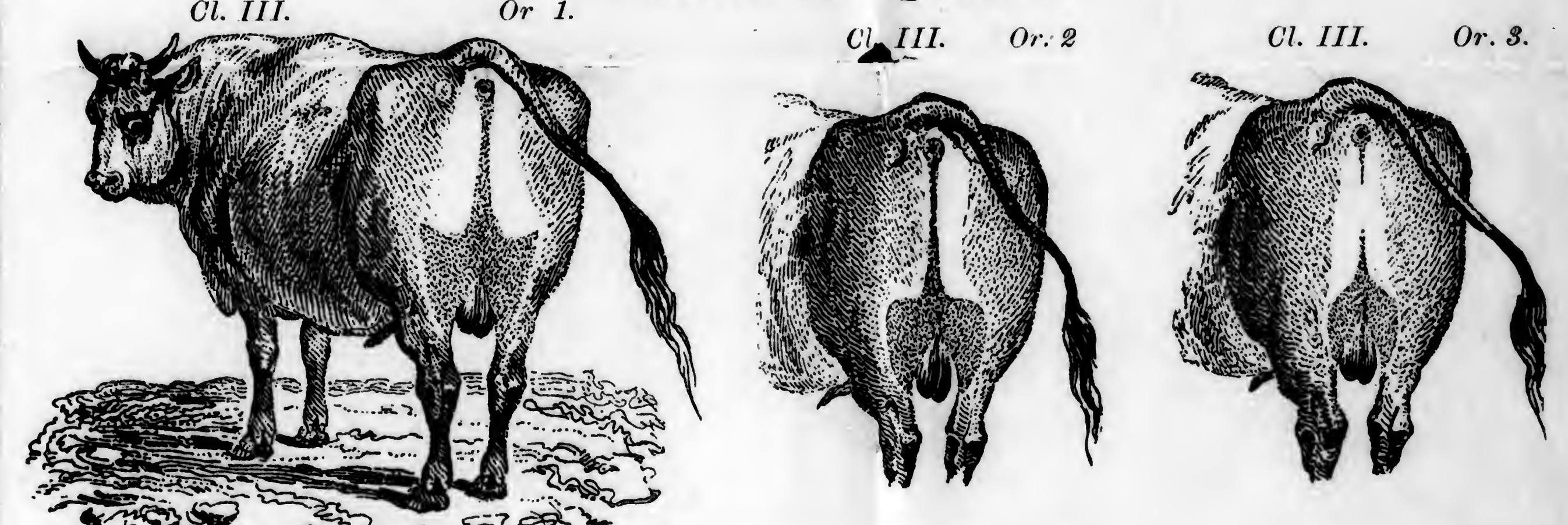
Class I.—Flanders Bull.



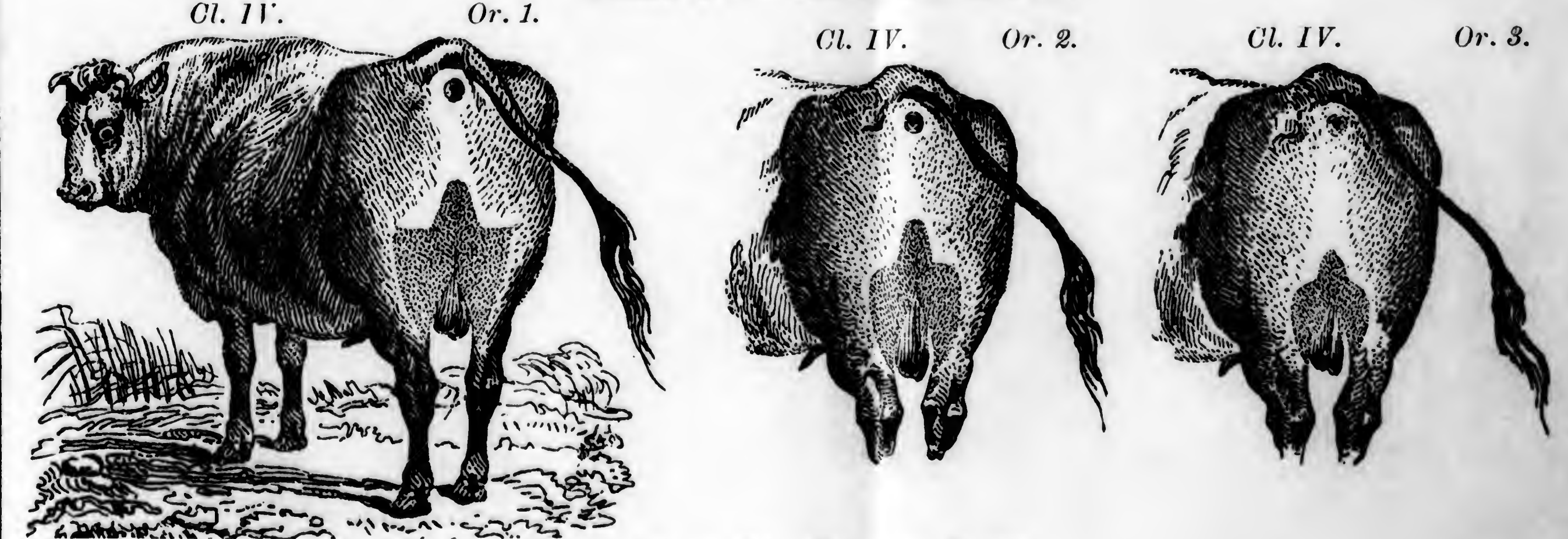
Class II.—Left Flanders Bull.



Class III.—Selvage Bulls.

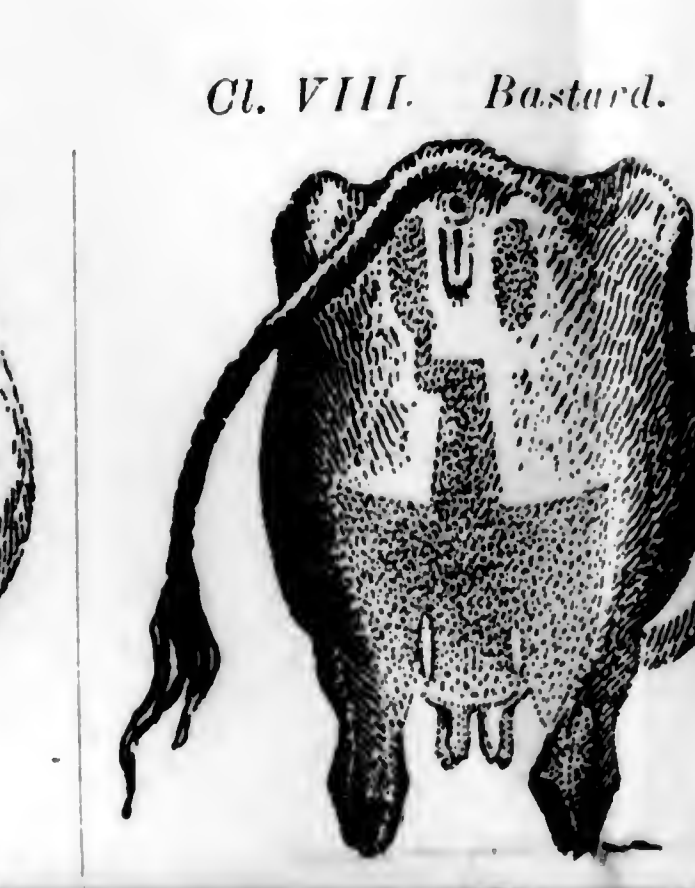
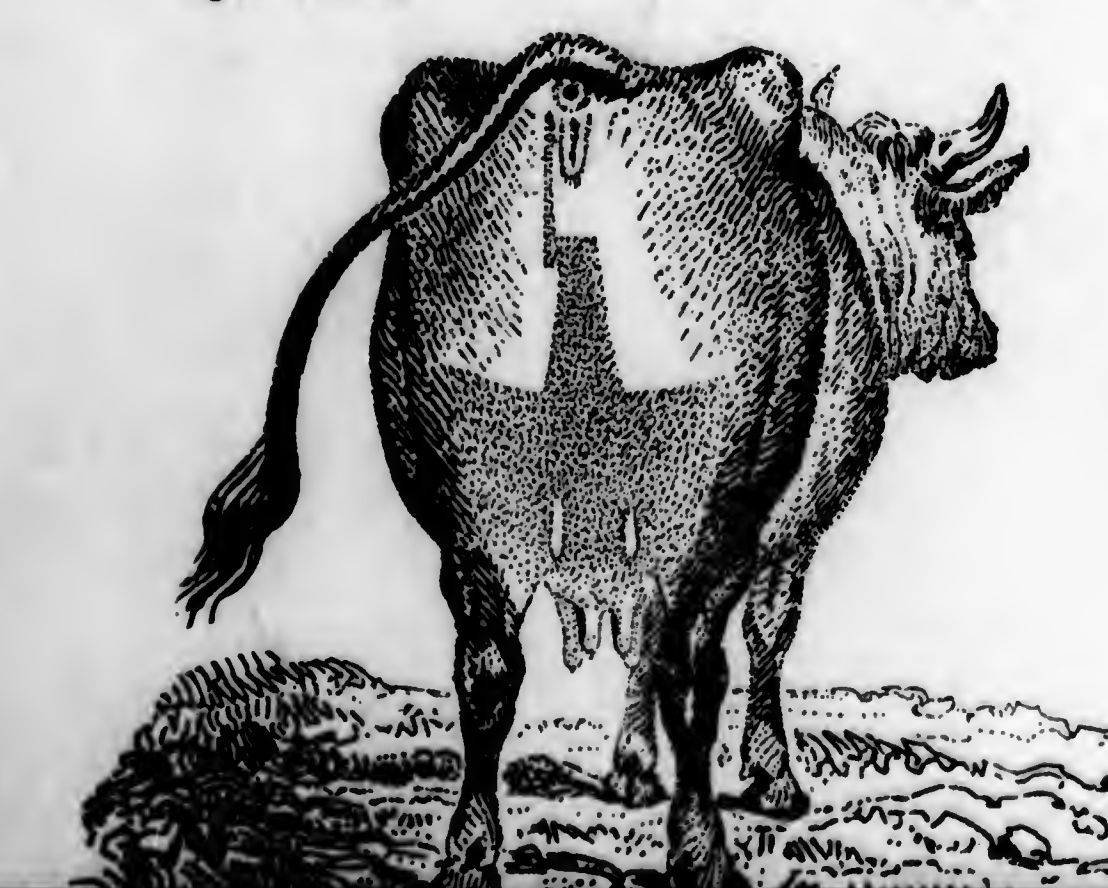
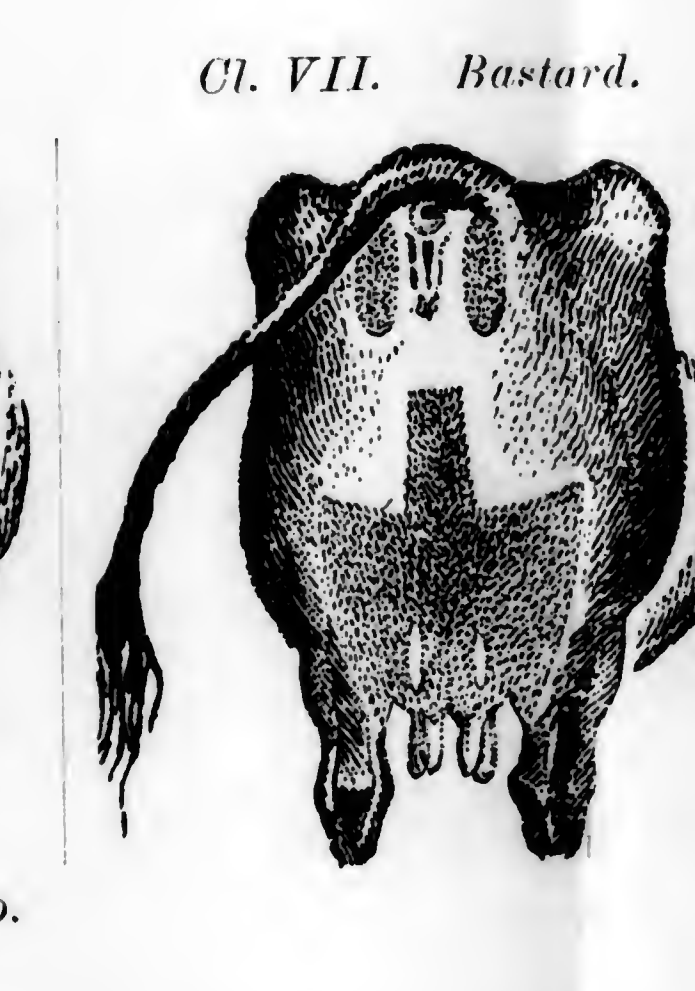
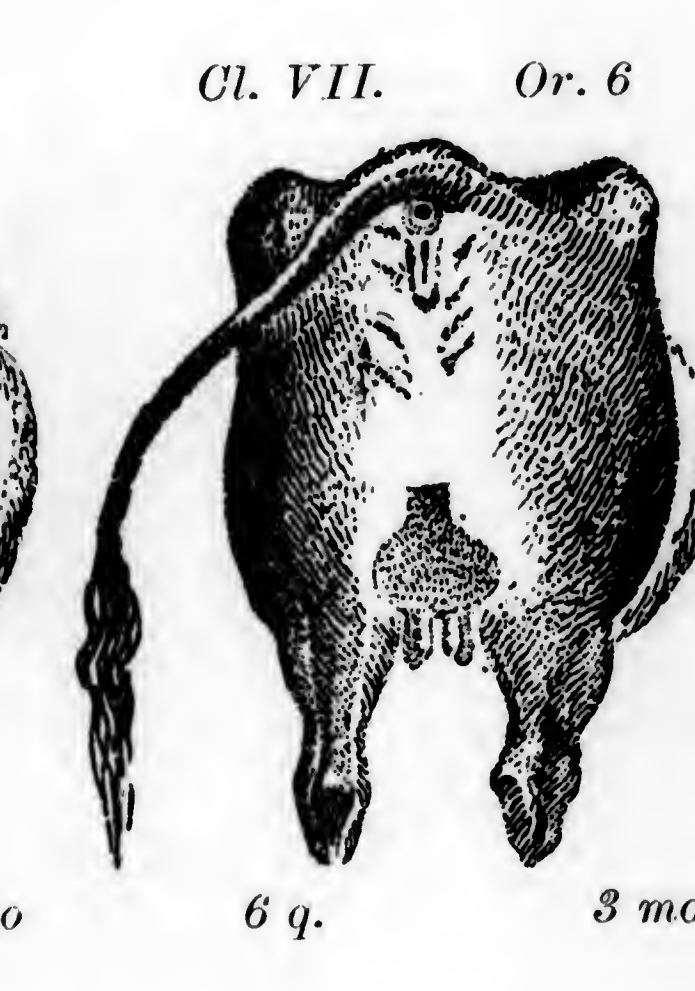
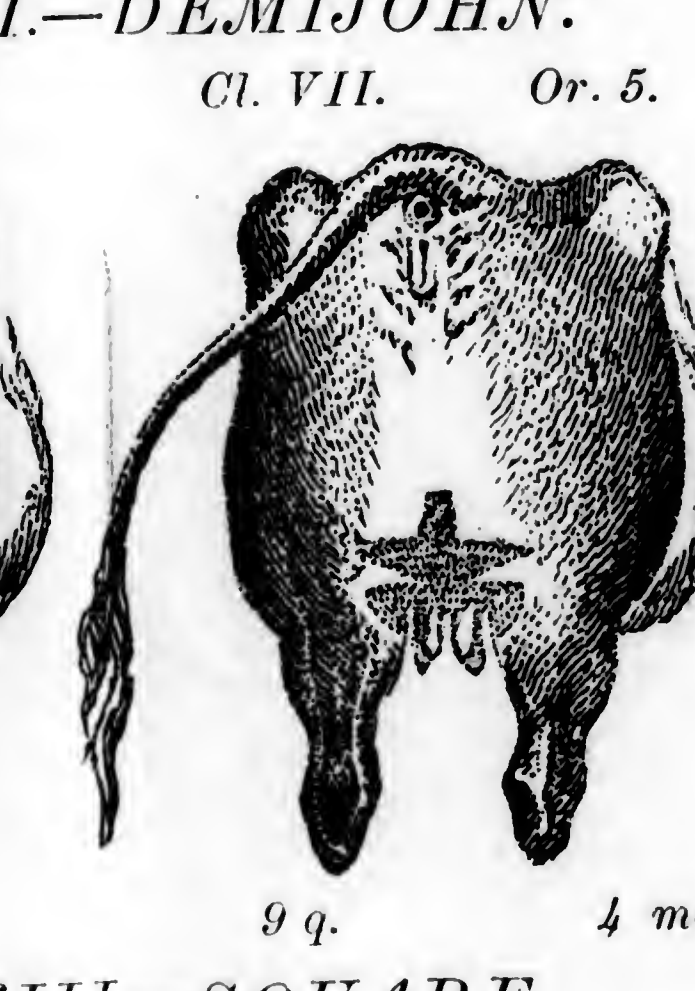
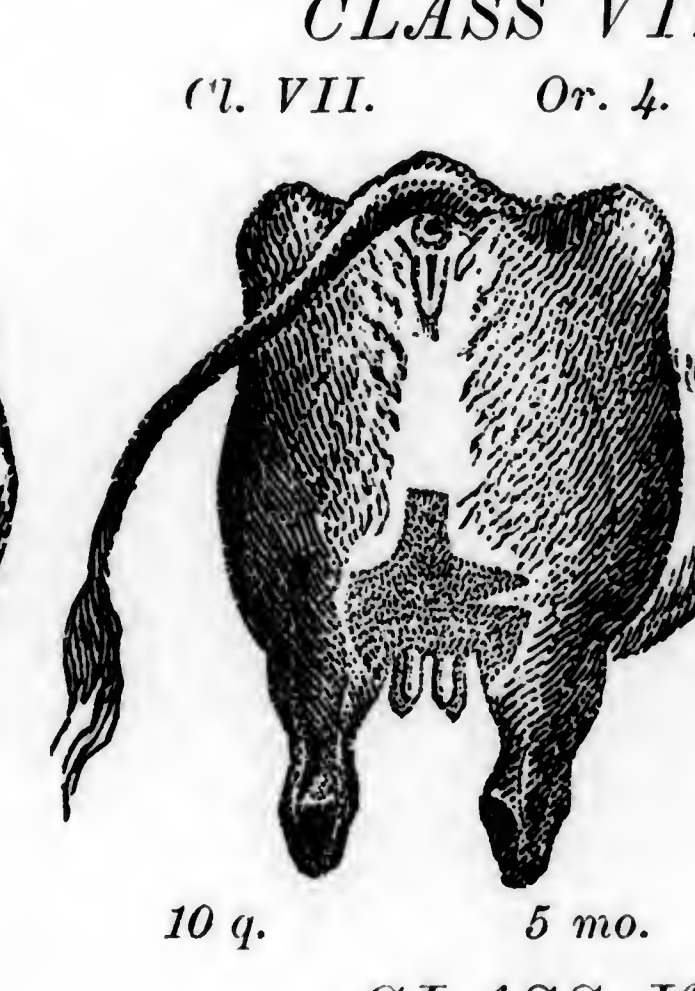
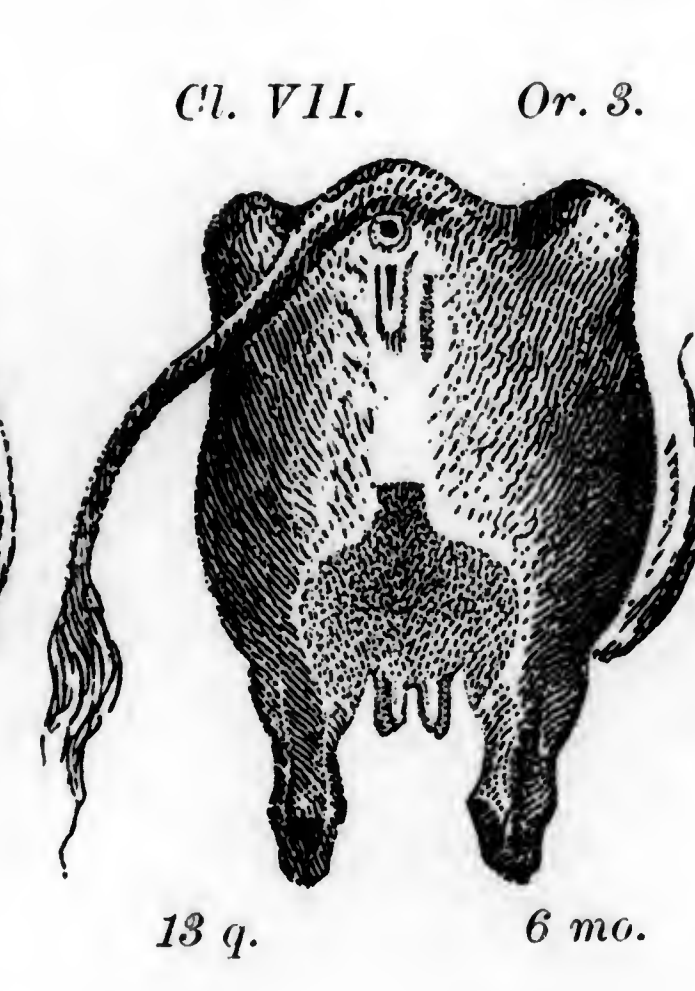
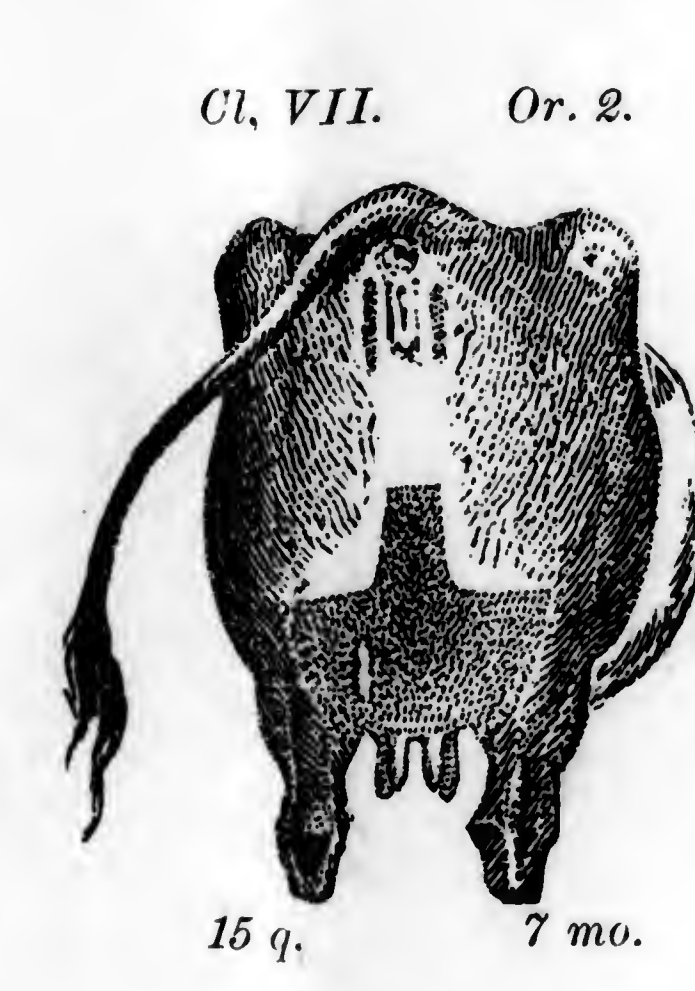
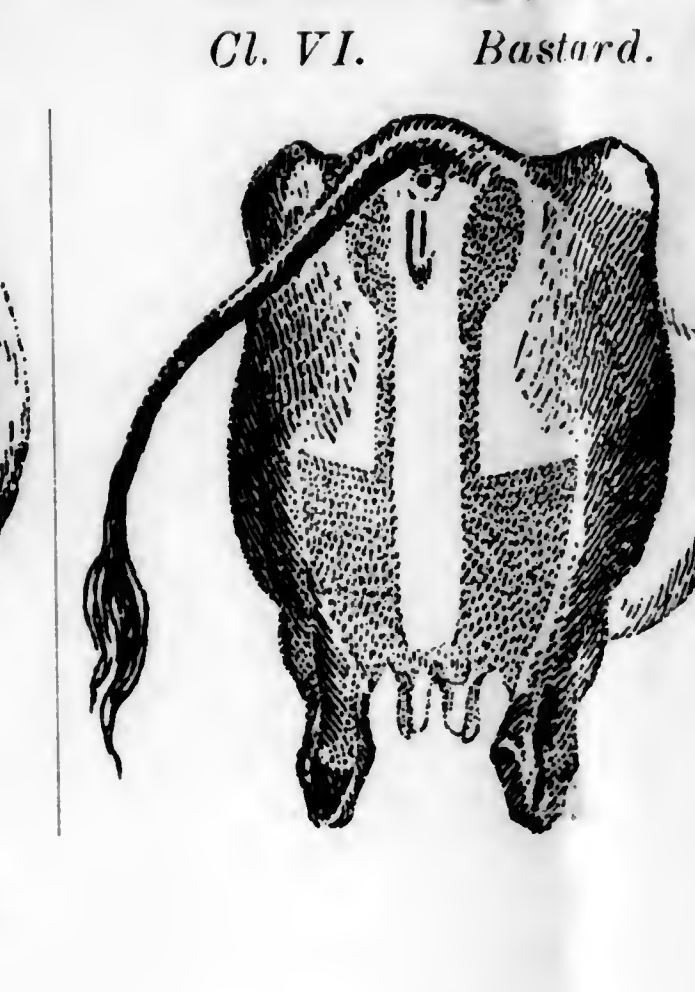
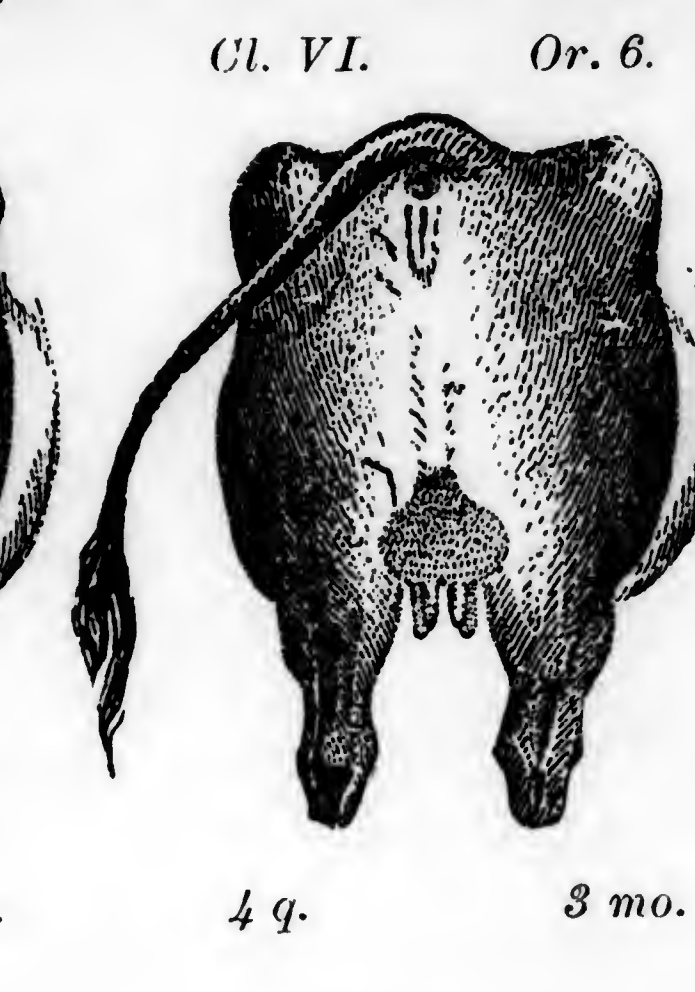
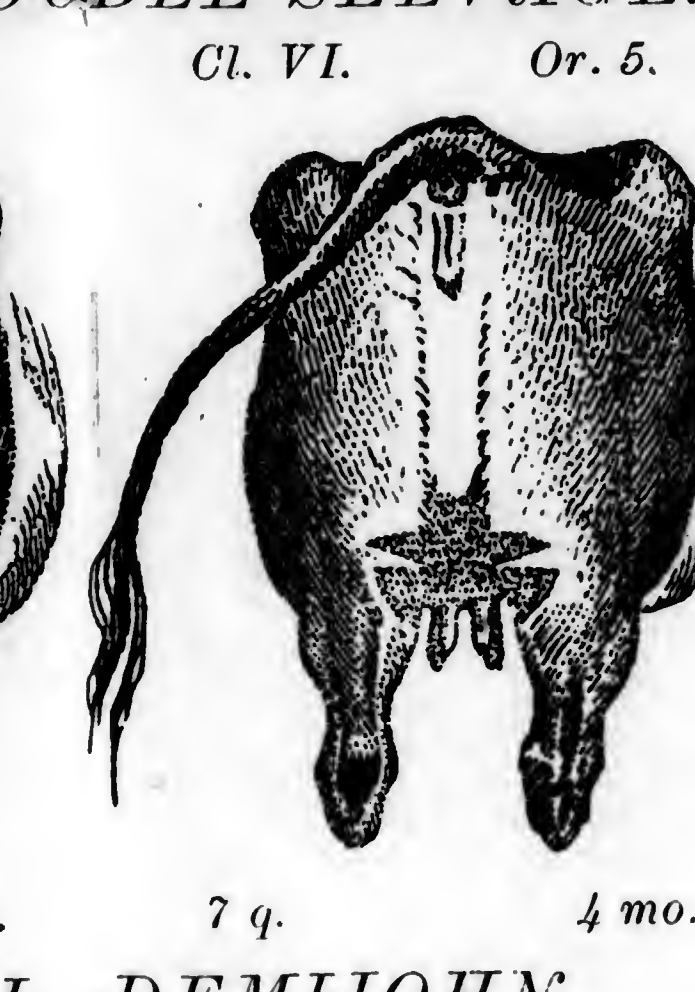
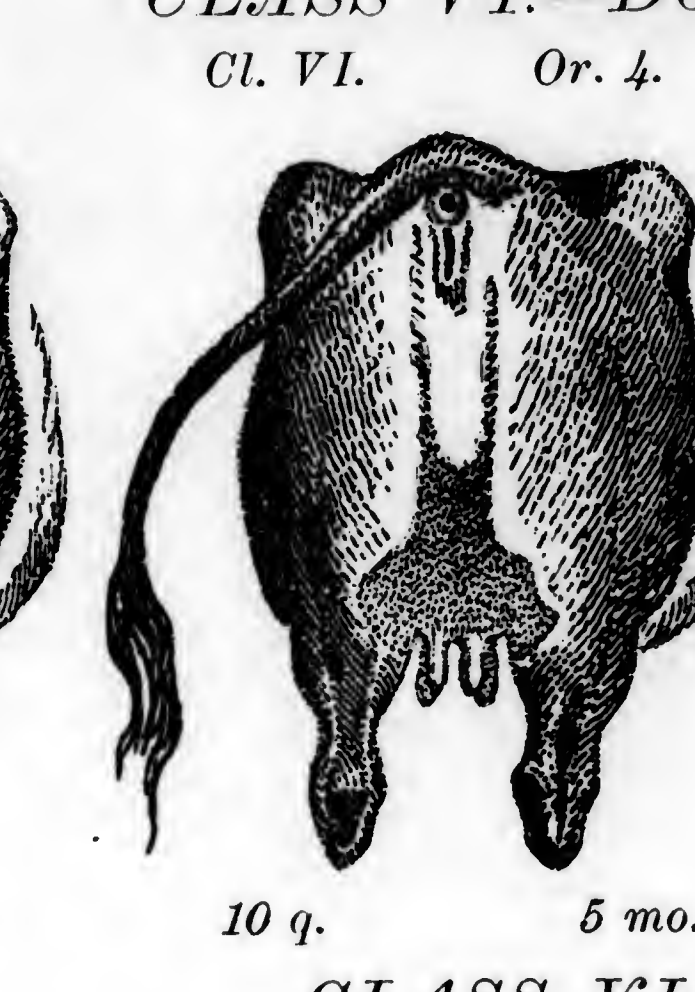
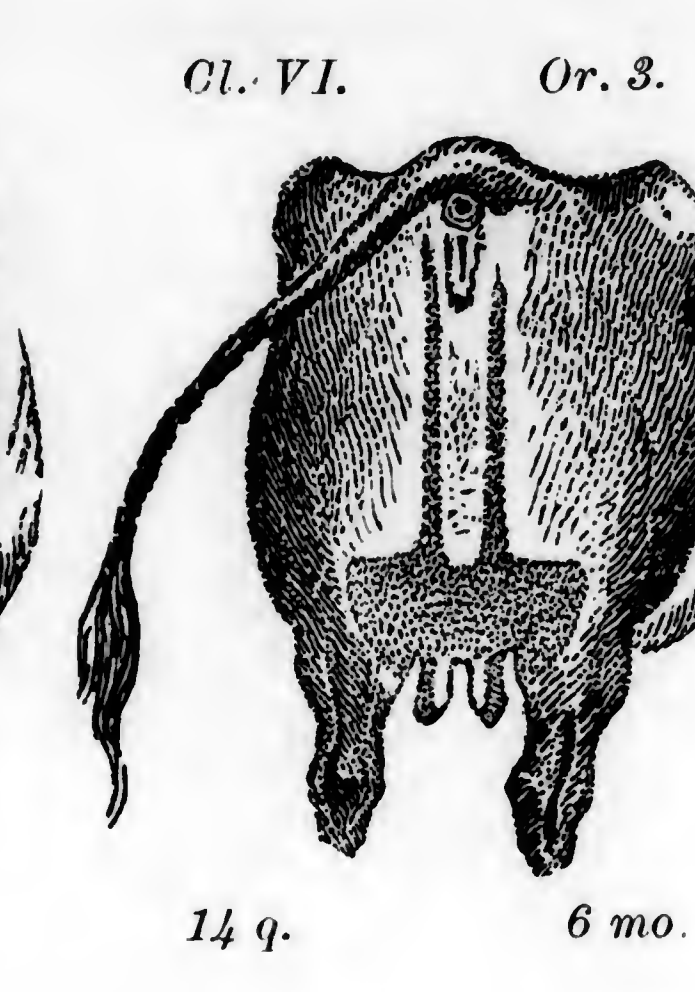
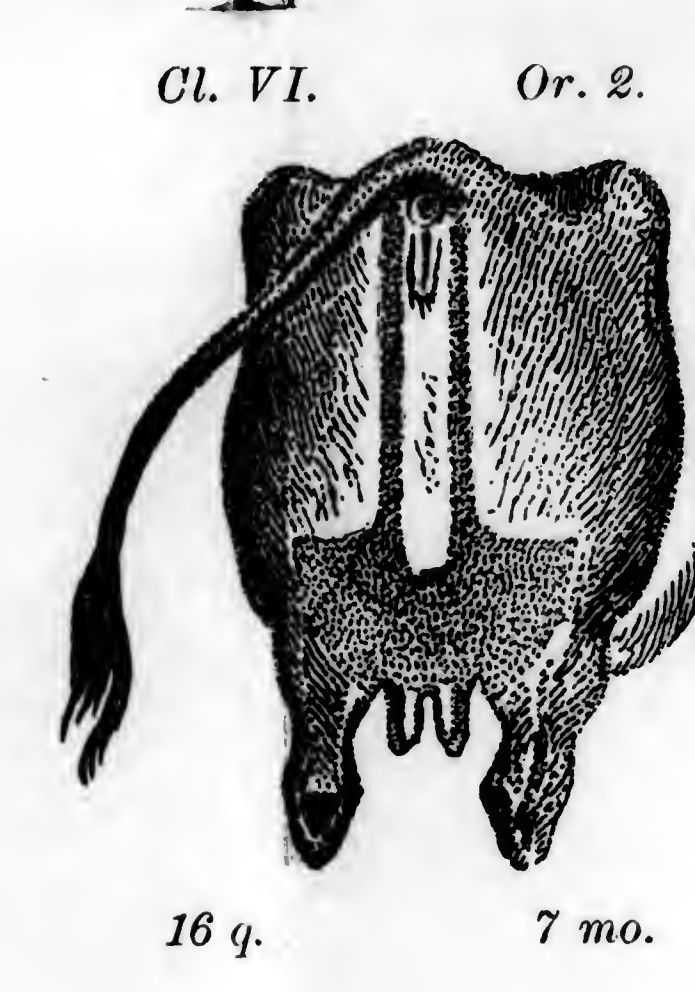
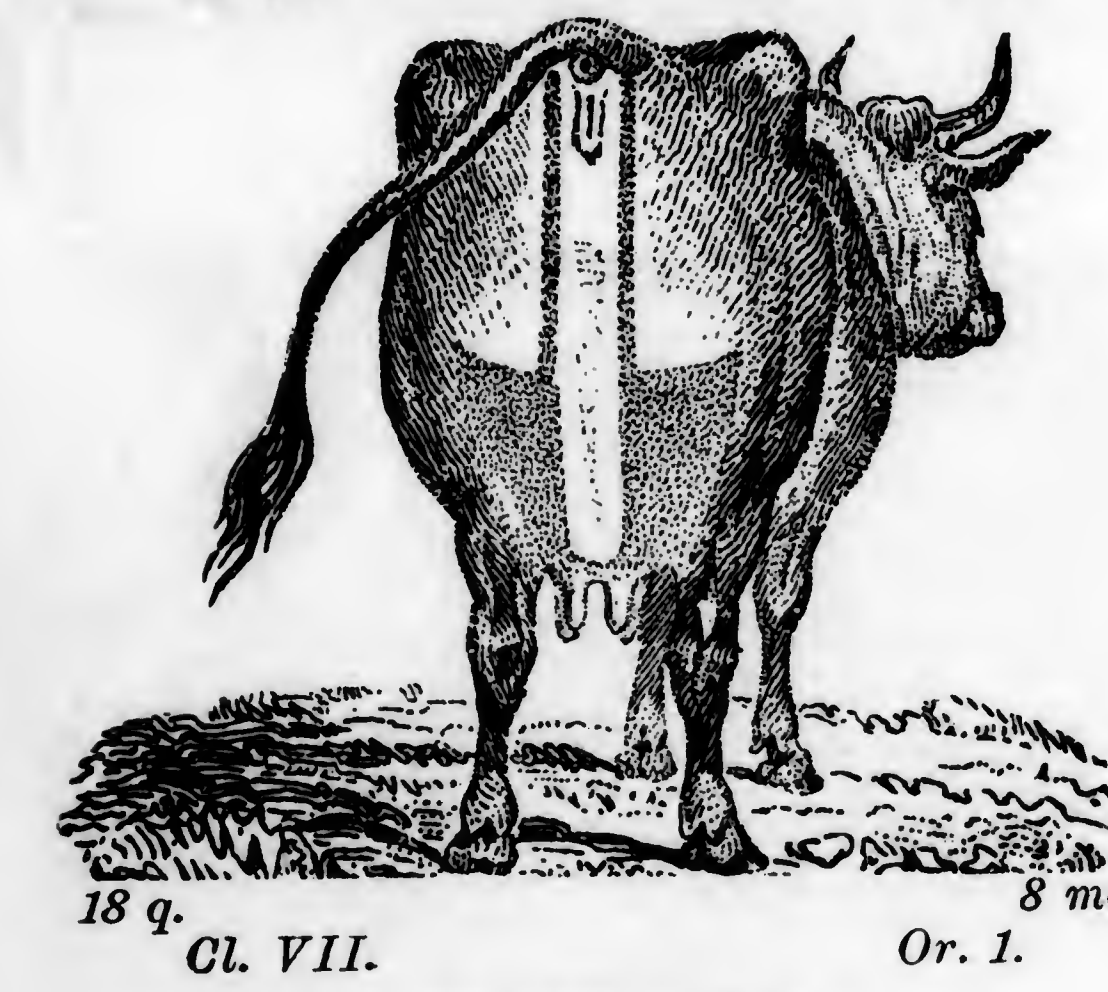
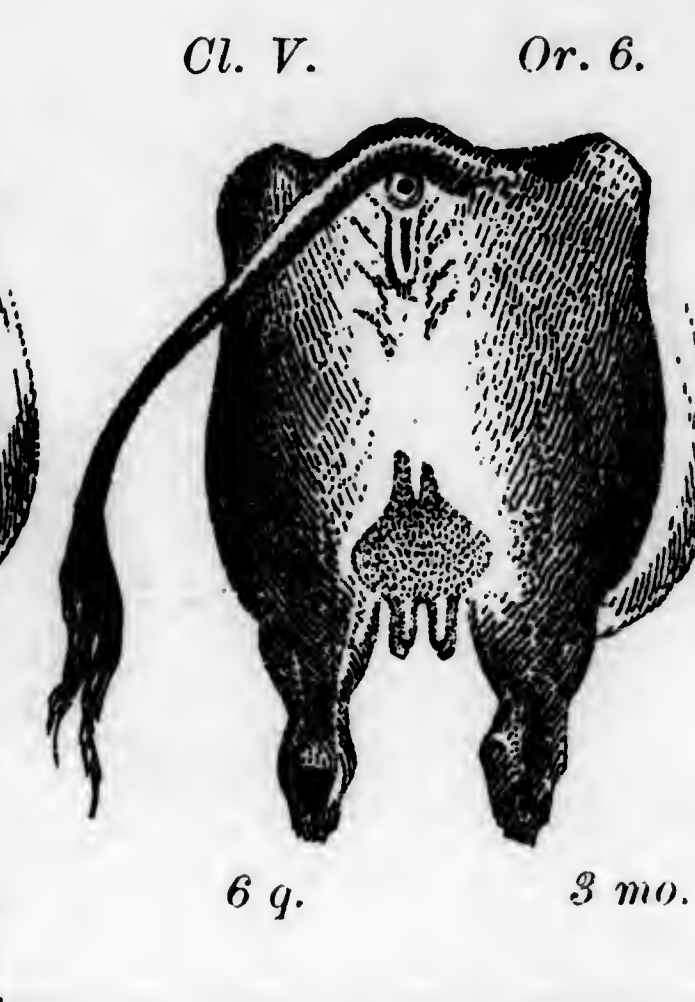
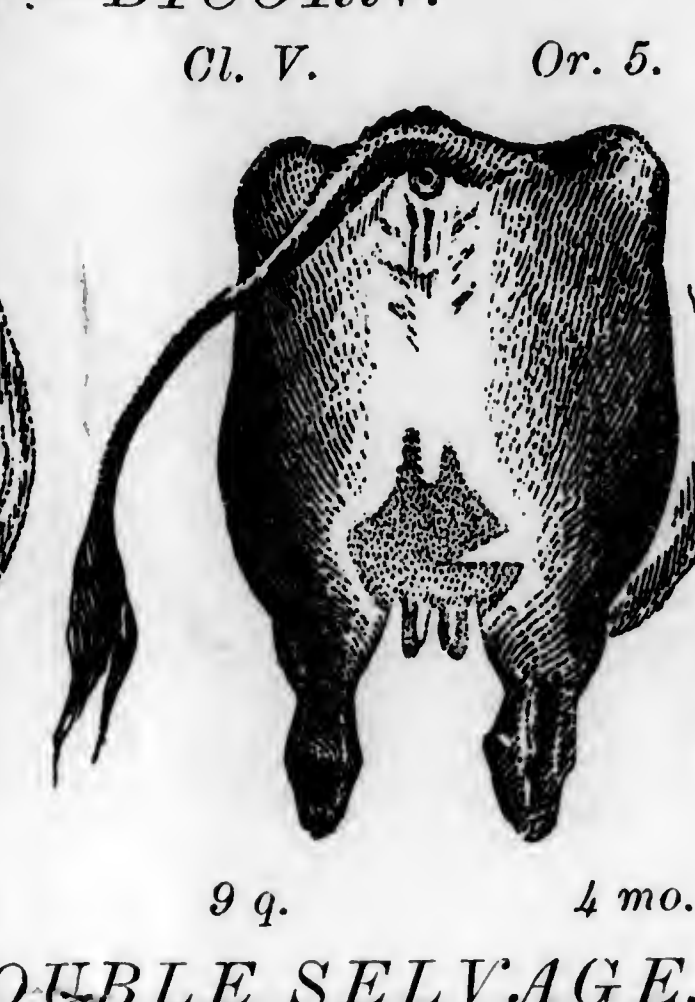
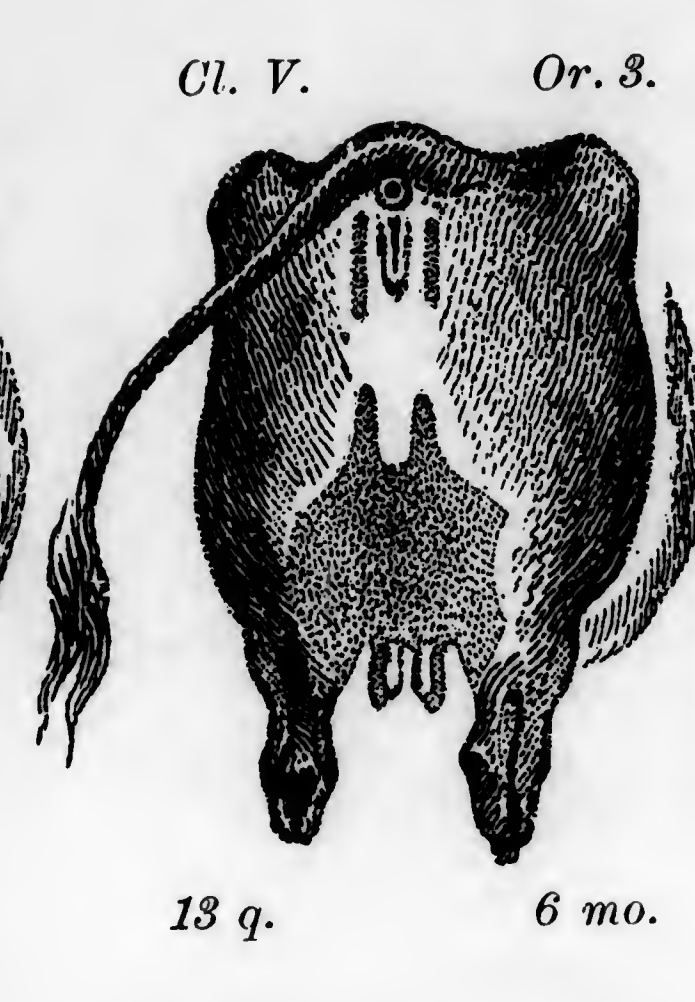
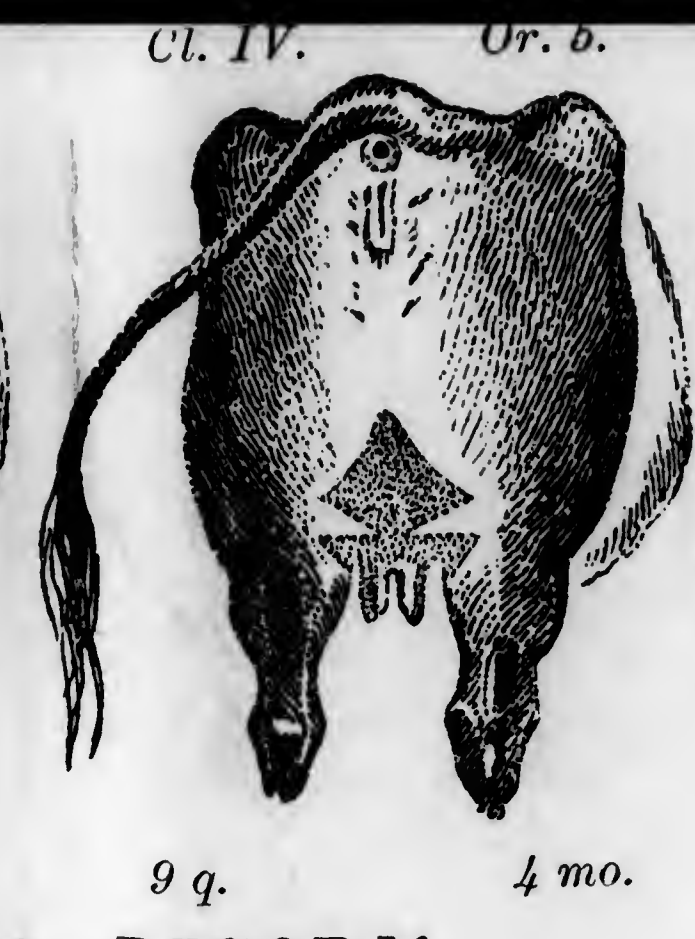
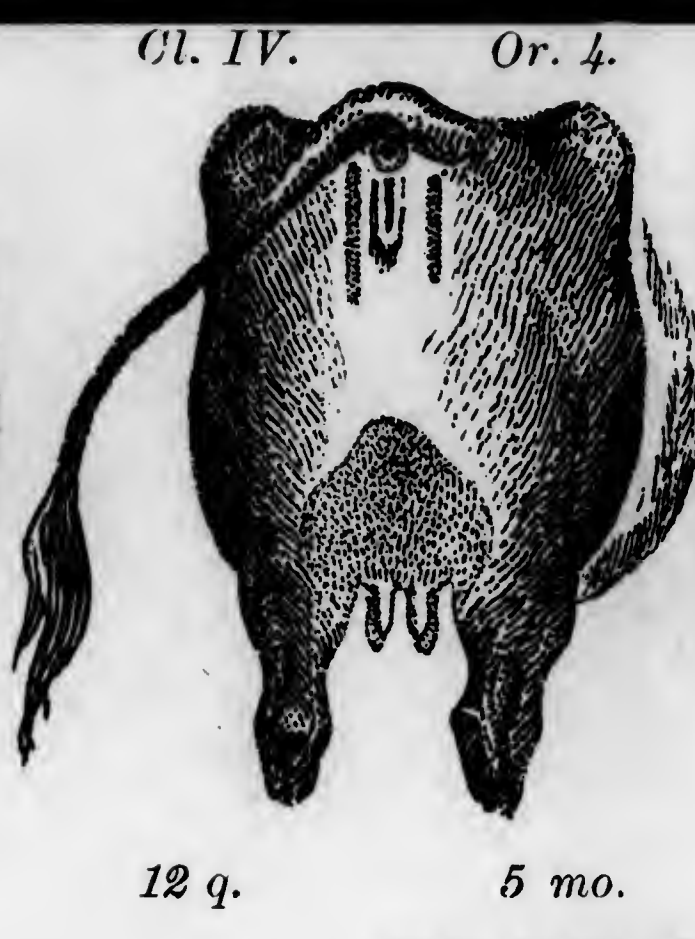
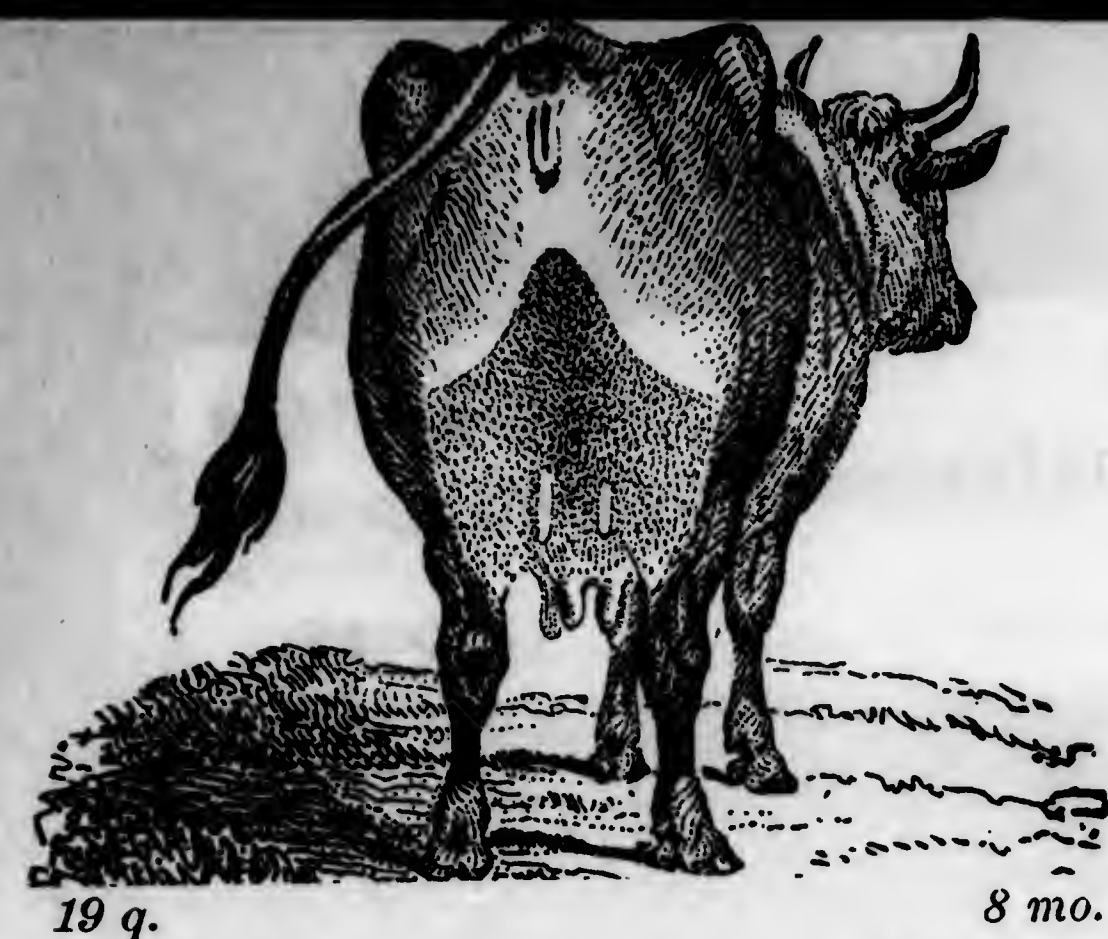


Class IV.—Curveline Bulls.



Class V.—Bicorn Bulls.



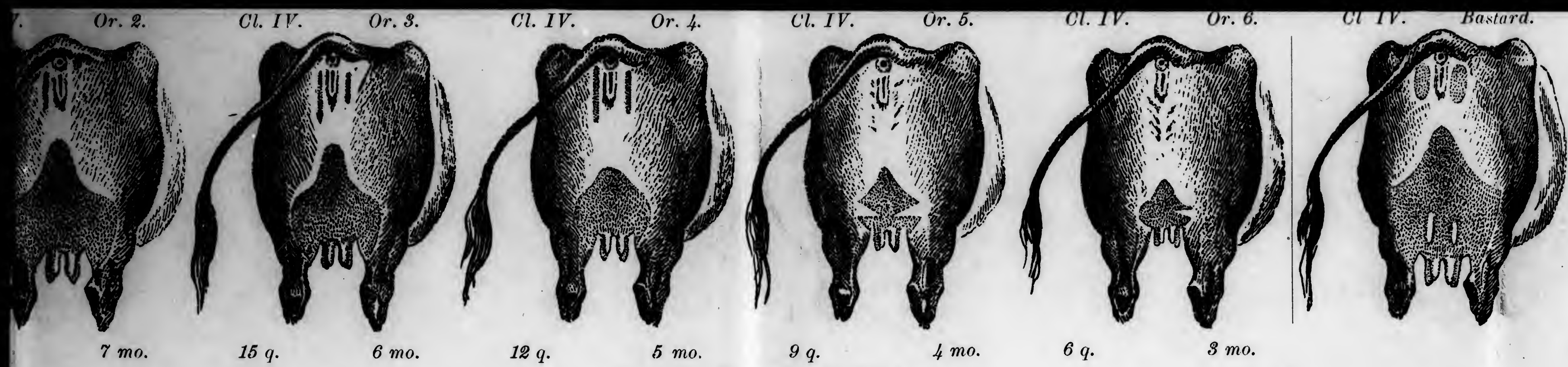


CLASS V.—BICORN.

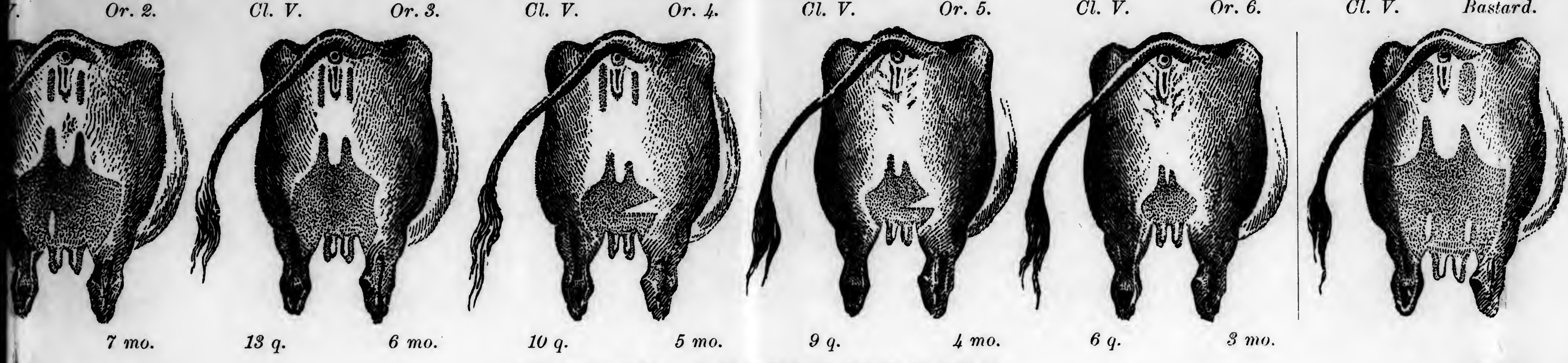
CLASS VI.—DOUBLE SELVAGE.

CLASS VII.—DEMIJOHN.

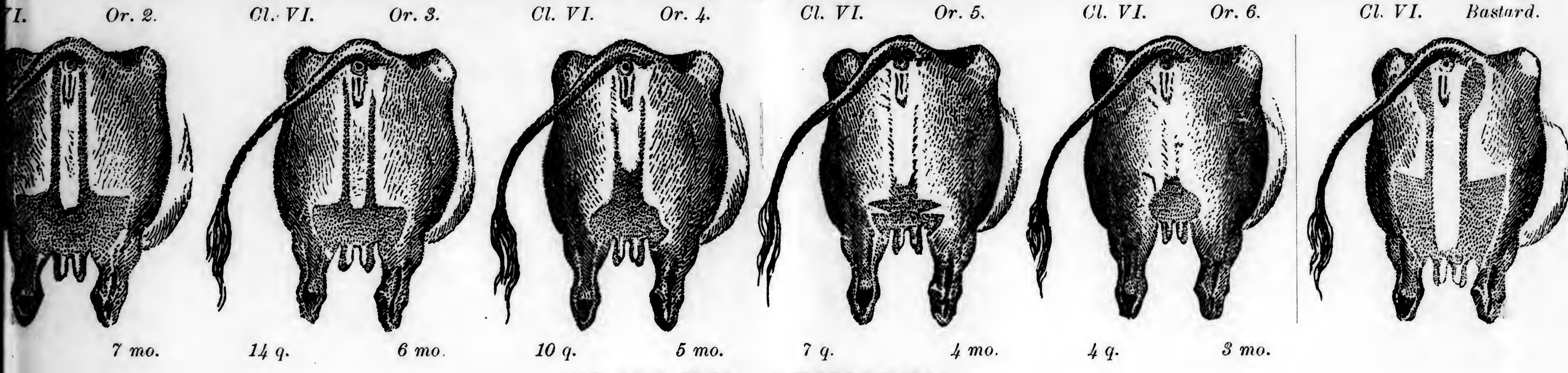
CLASS VIII.—SQUARE.



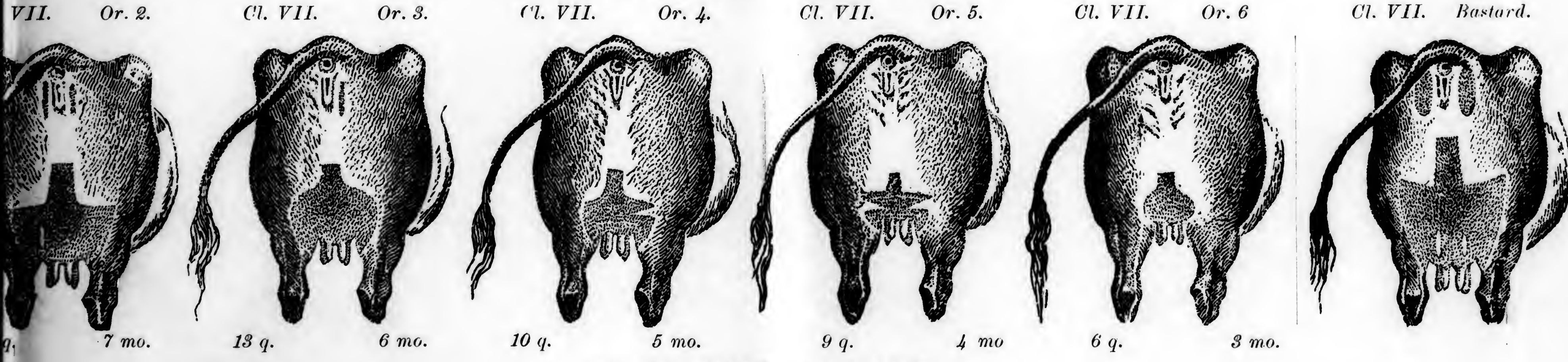
CLASS V.—BICORN.



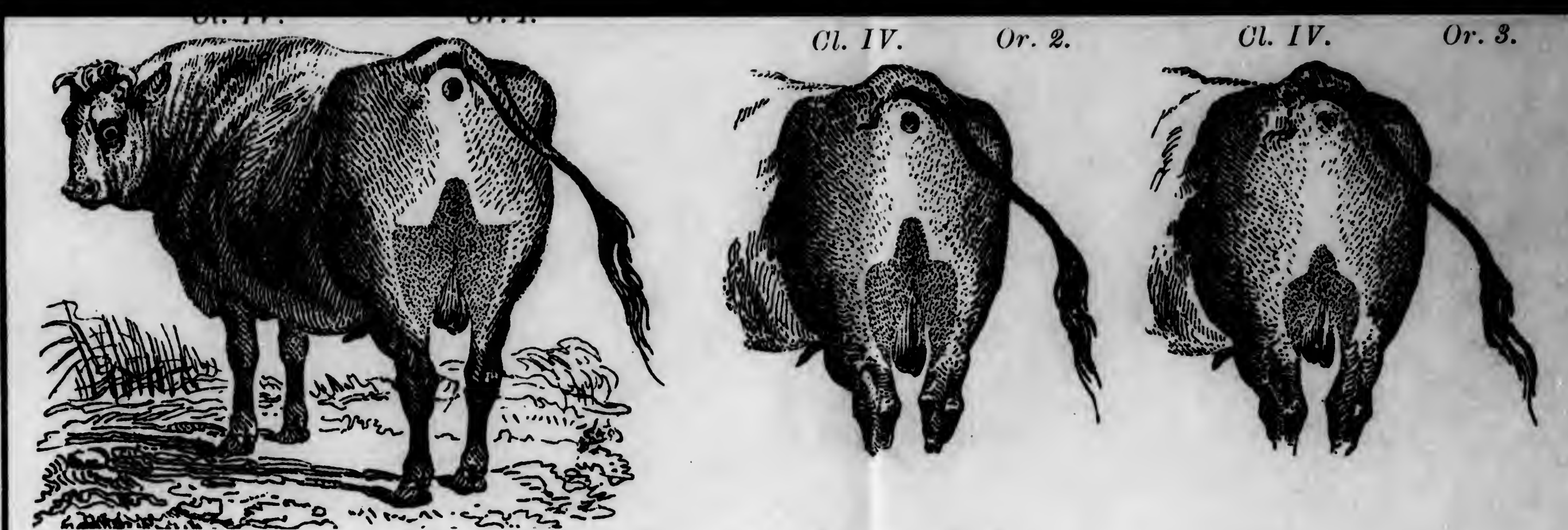
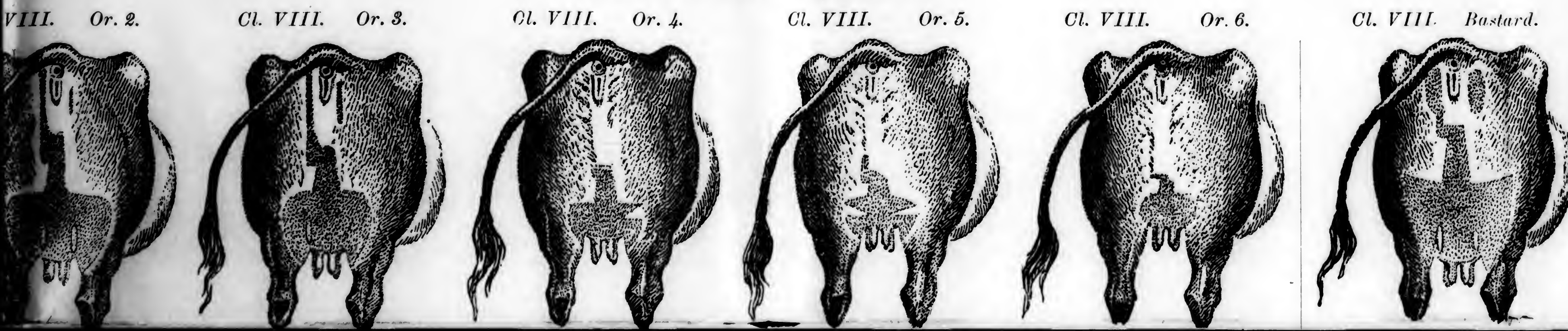
CLASS VI.—DOUBLE SELVAGE.



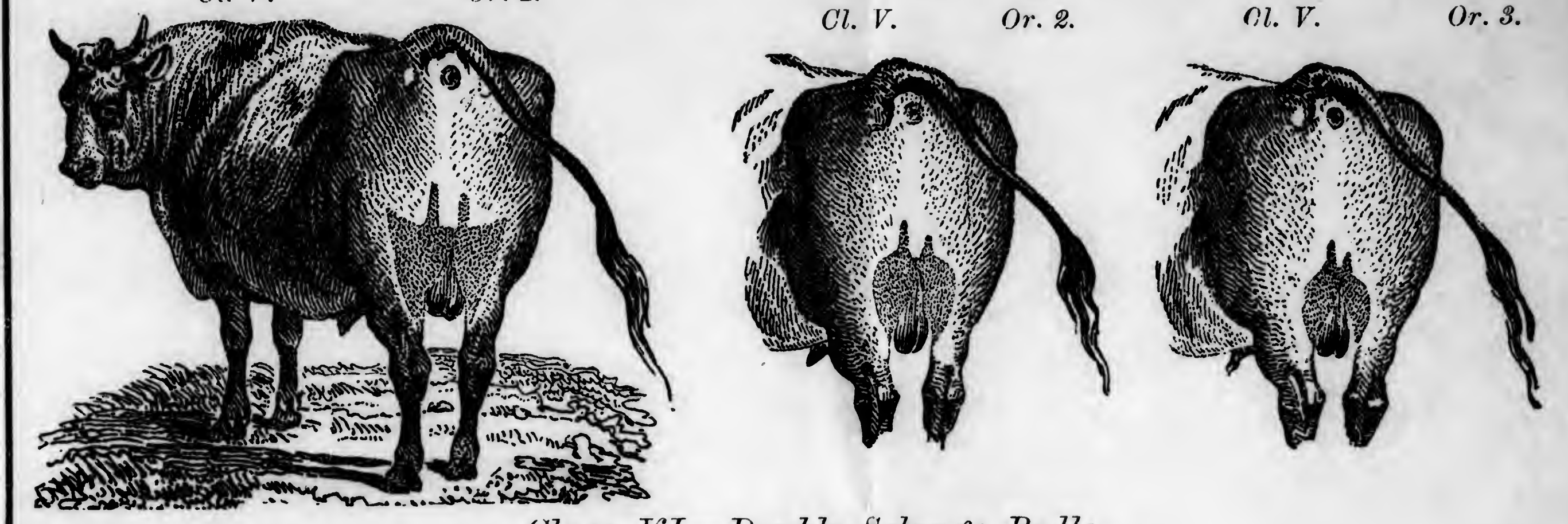
CLASS VII.—DEMIJOHN.



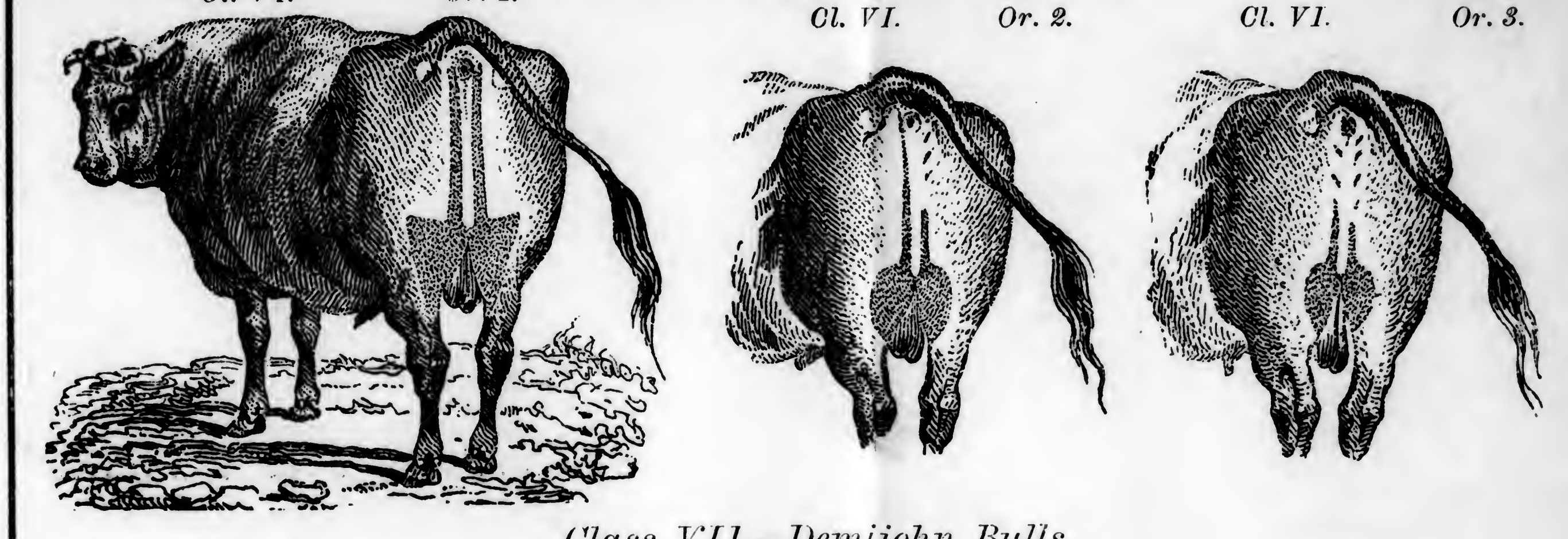
CLASS VIII.—SQUARE.



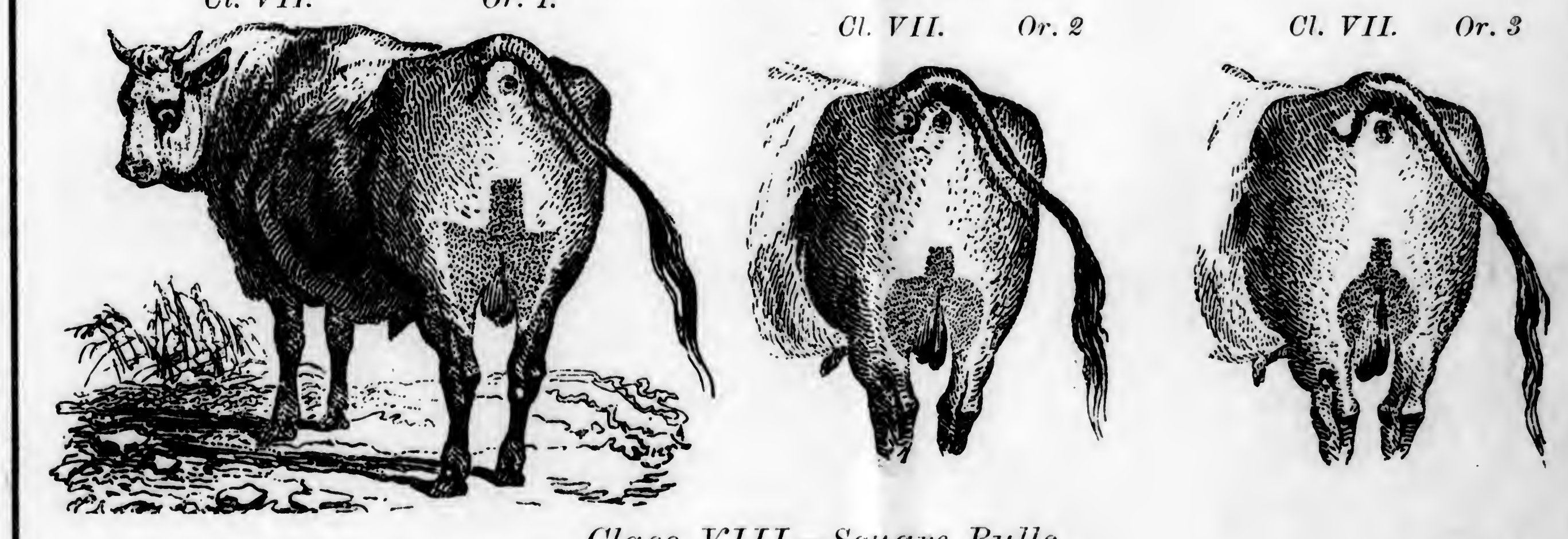
Class V.—Bicorn Bulls.



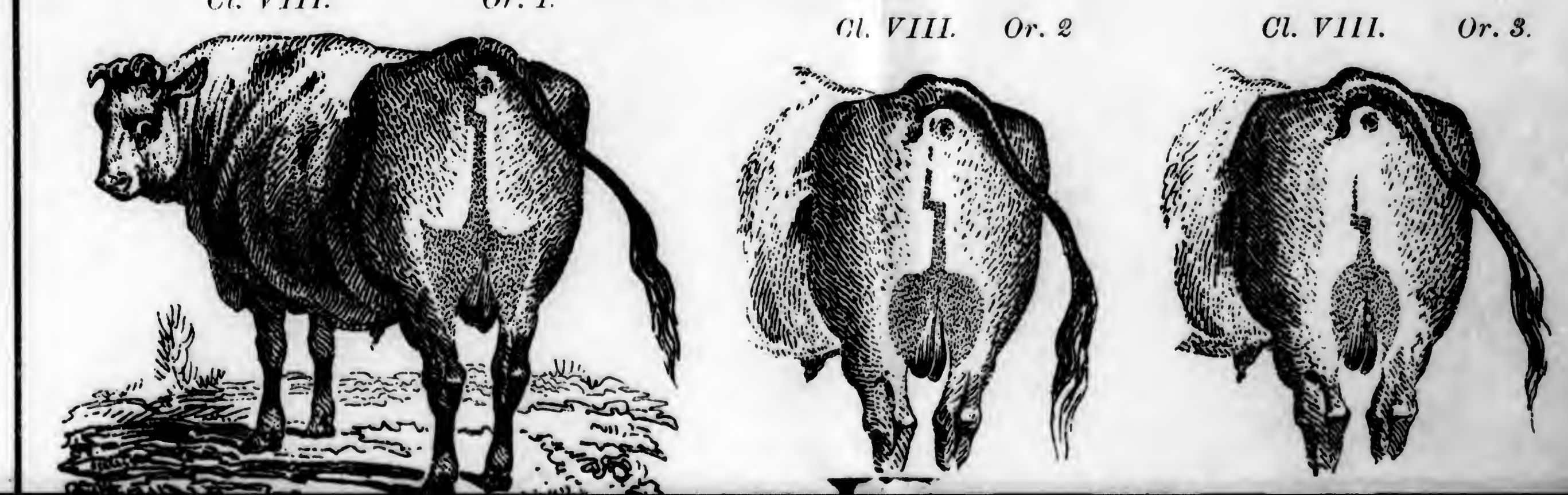
Class VI.—Double Selvage Bulls.



Class VII.—Demijohn Bulls.



Class VIII.—Square Bulls.



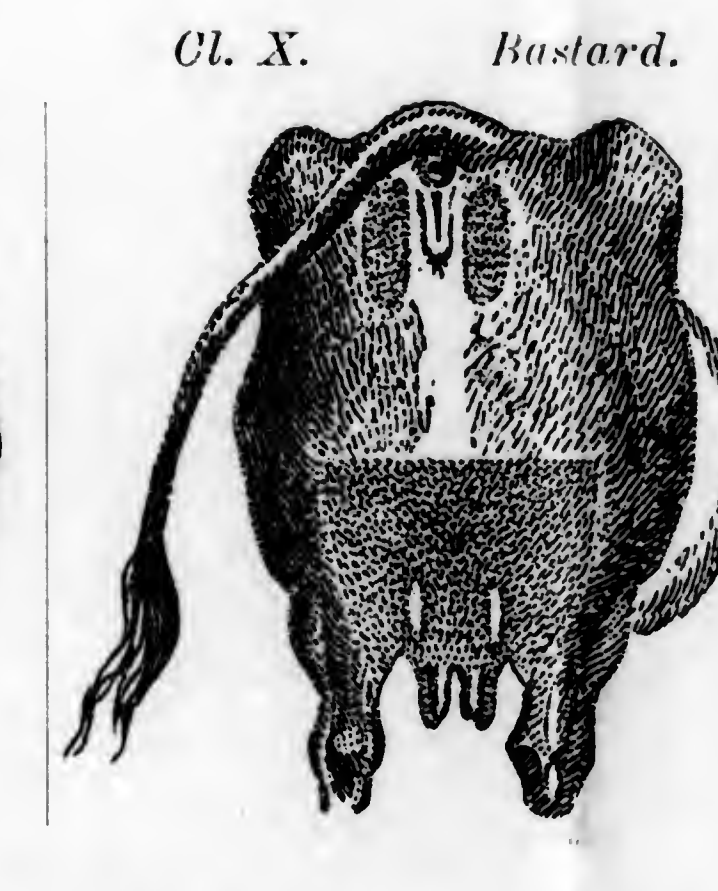
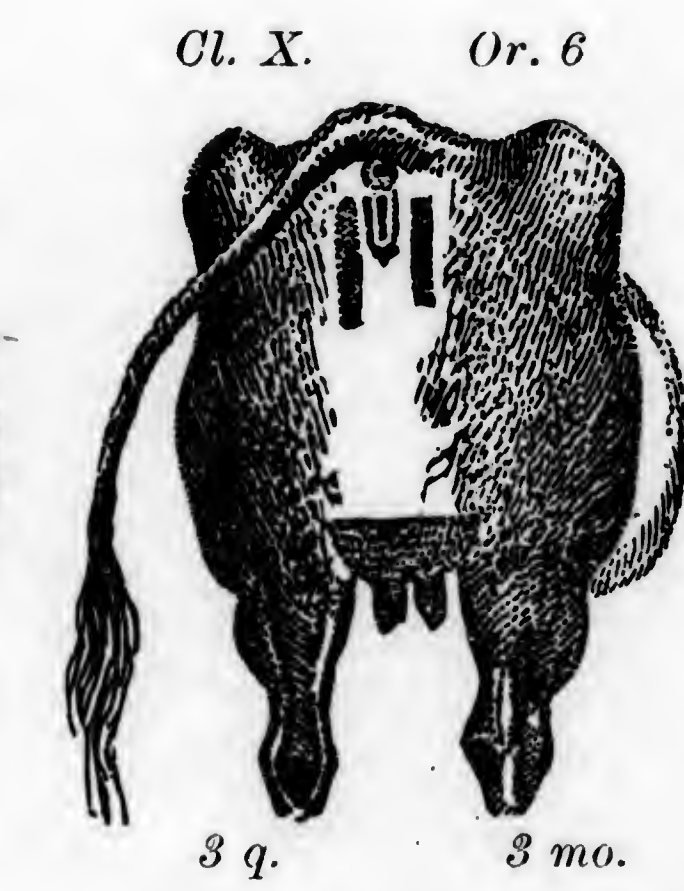
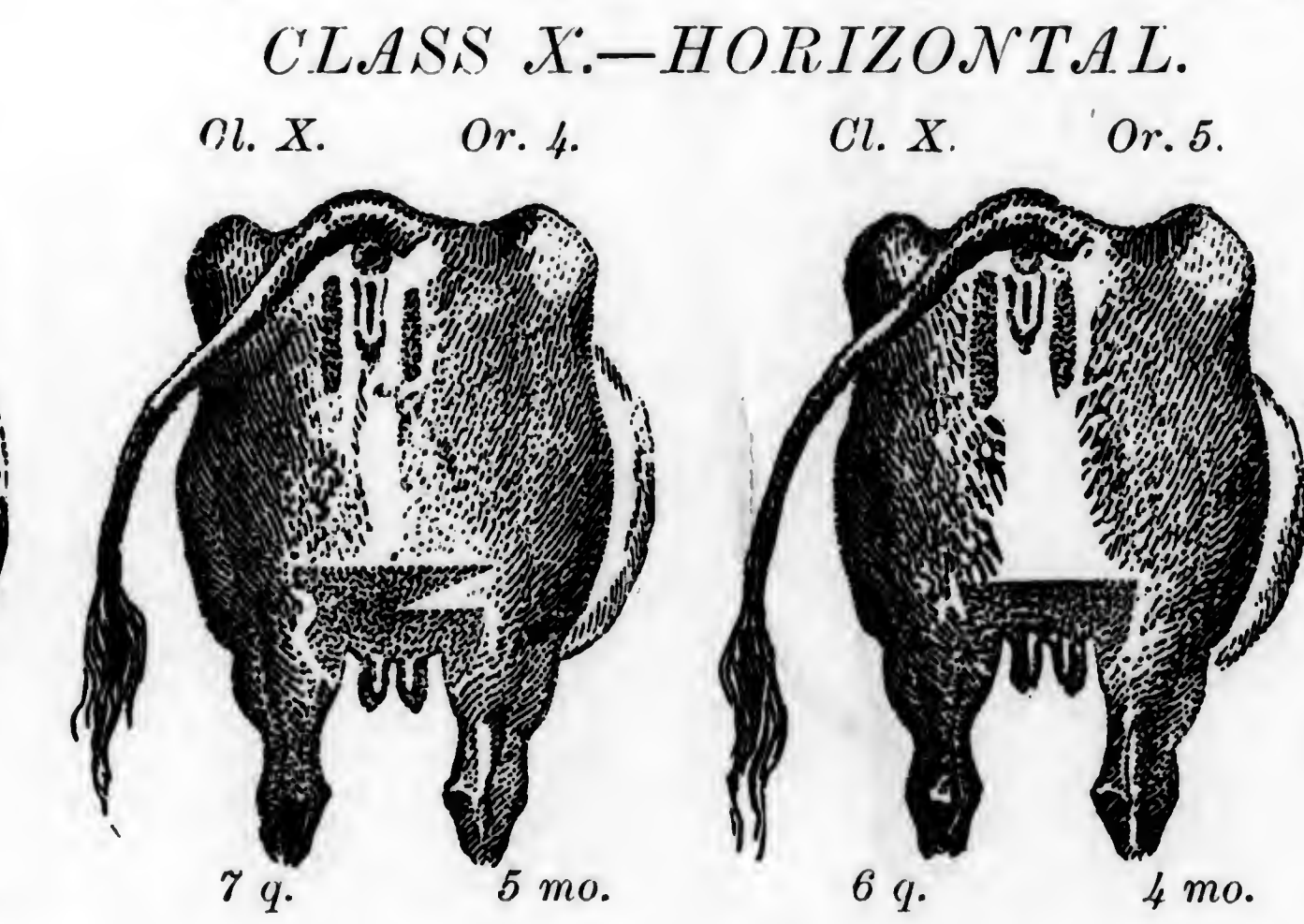
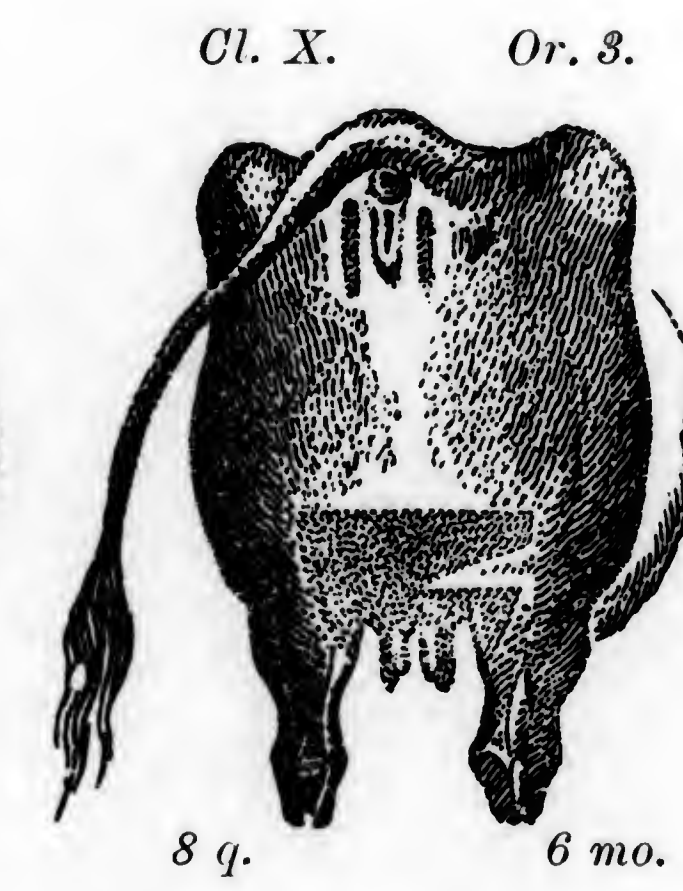
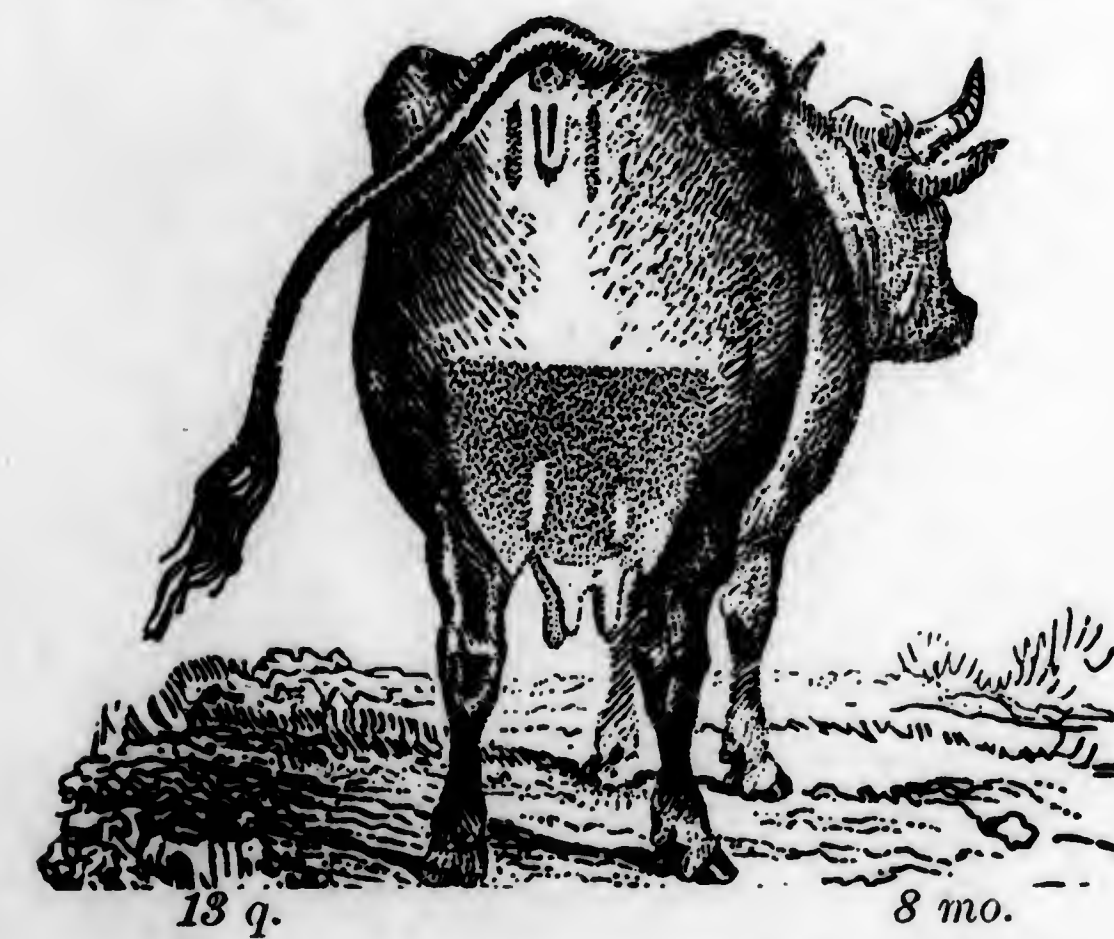
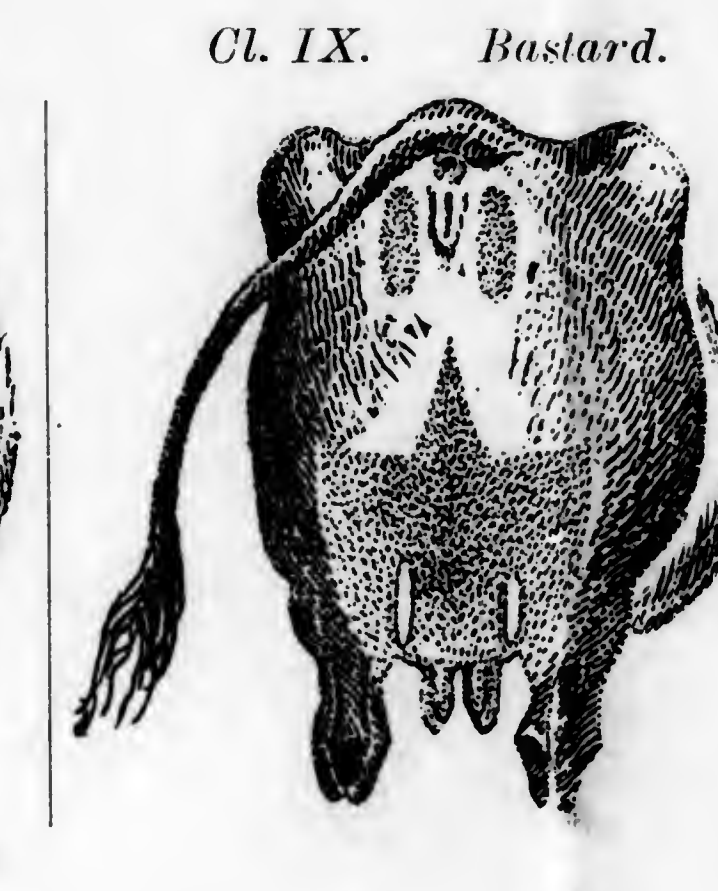
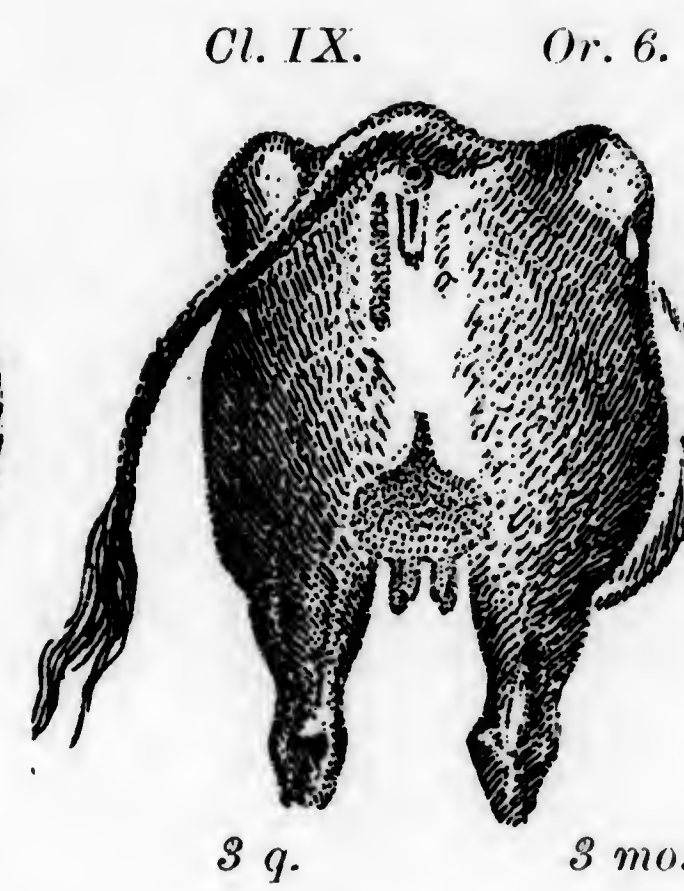
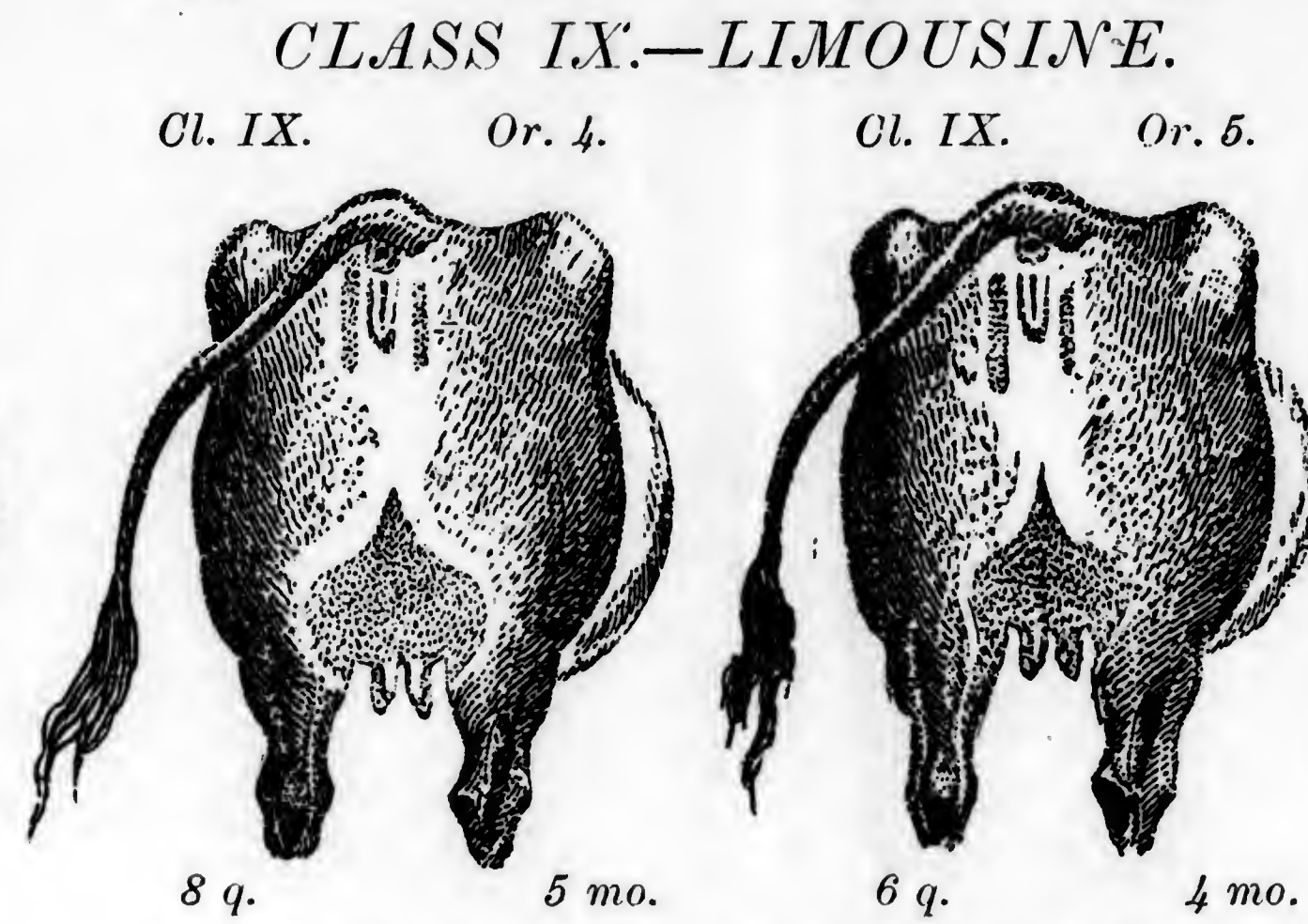
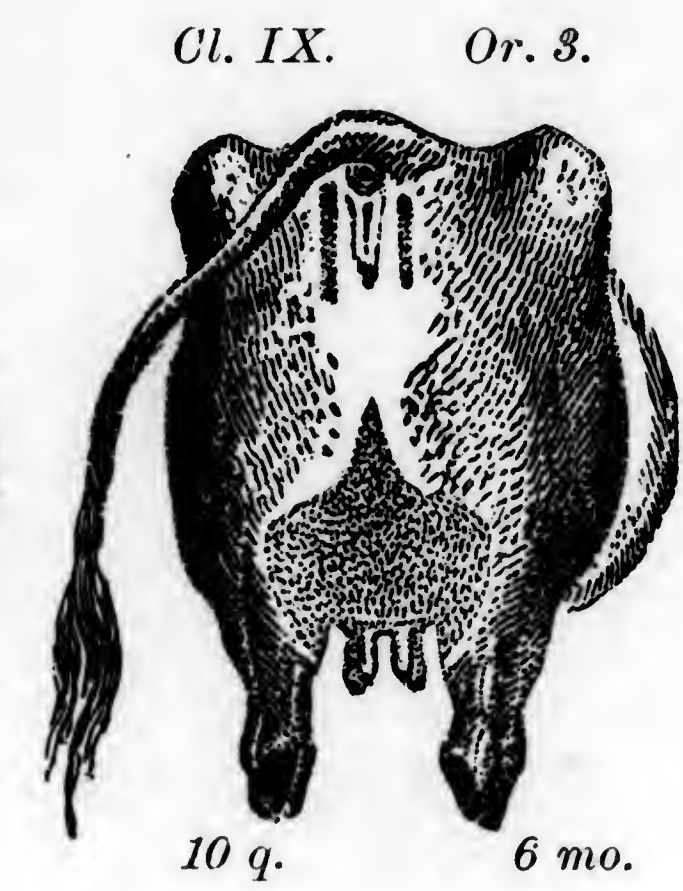
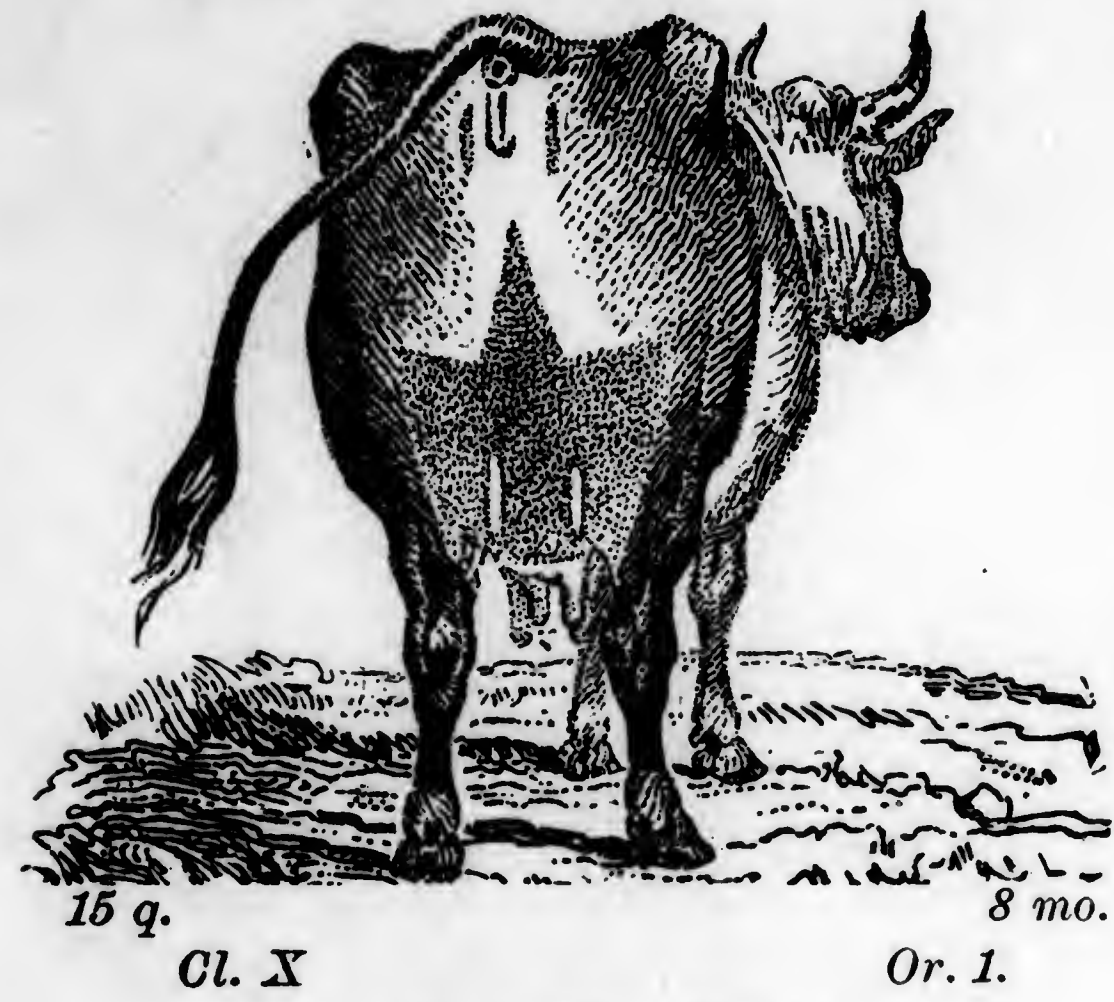
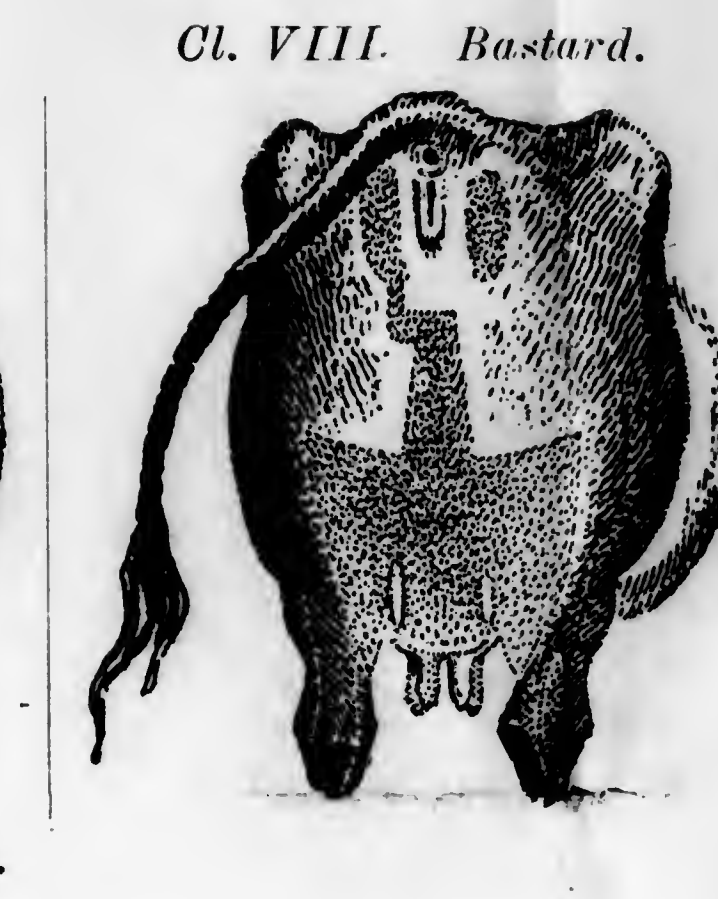
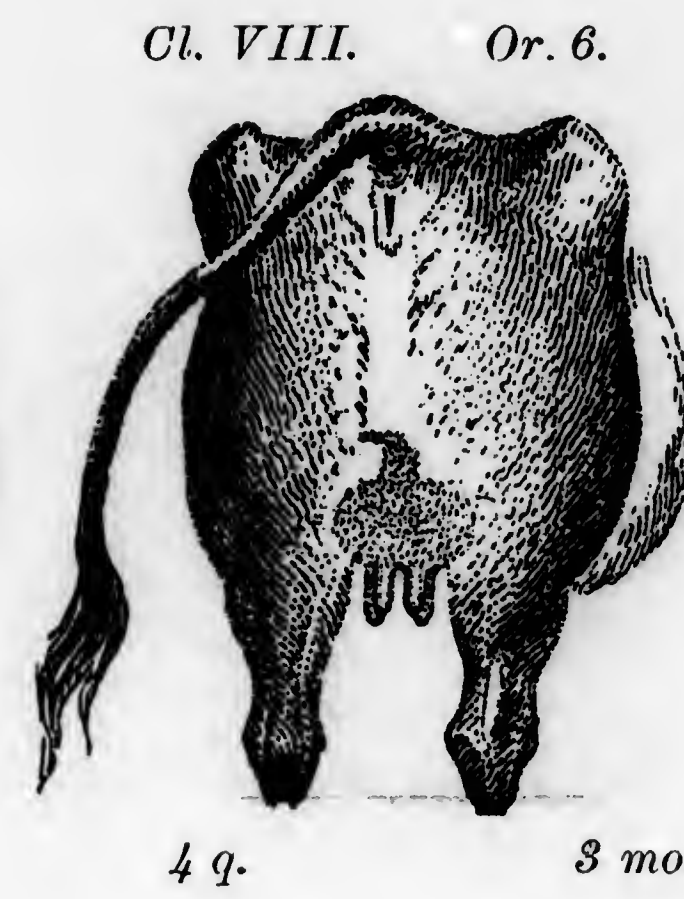
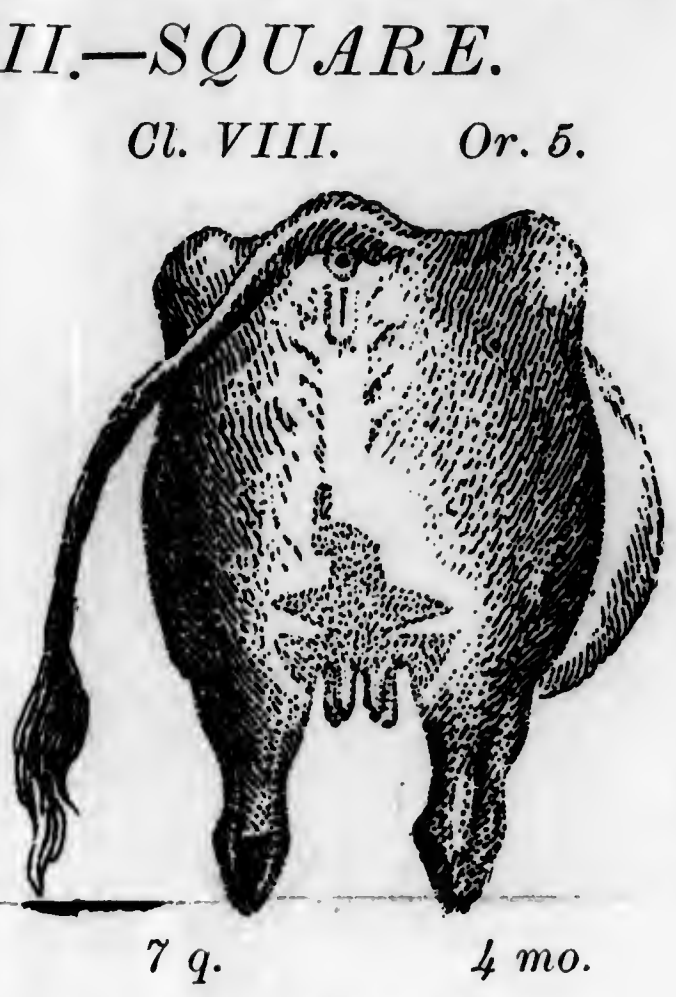
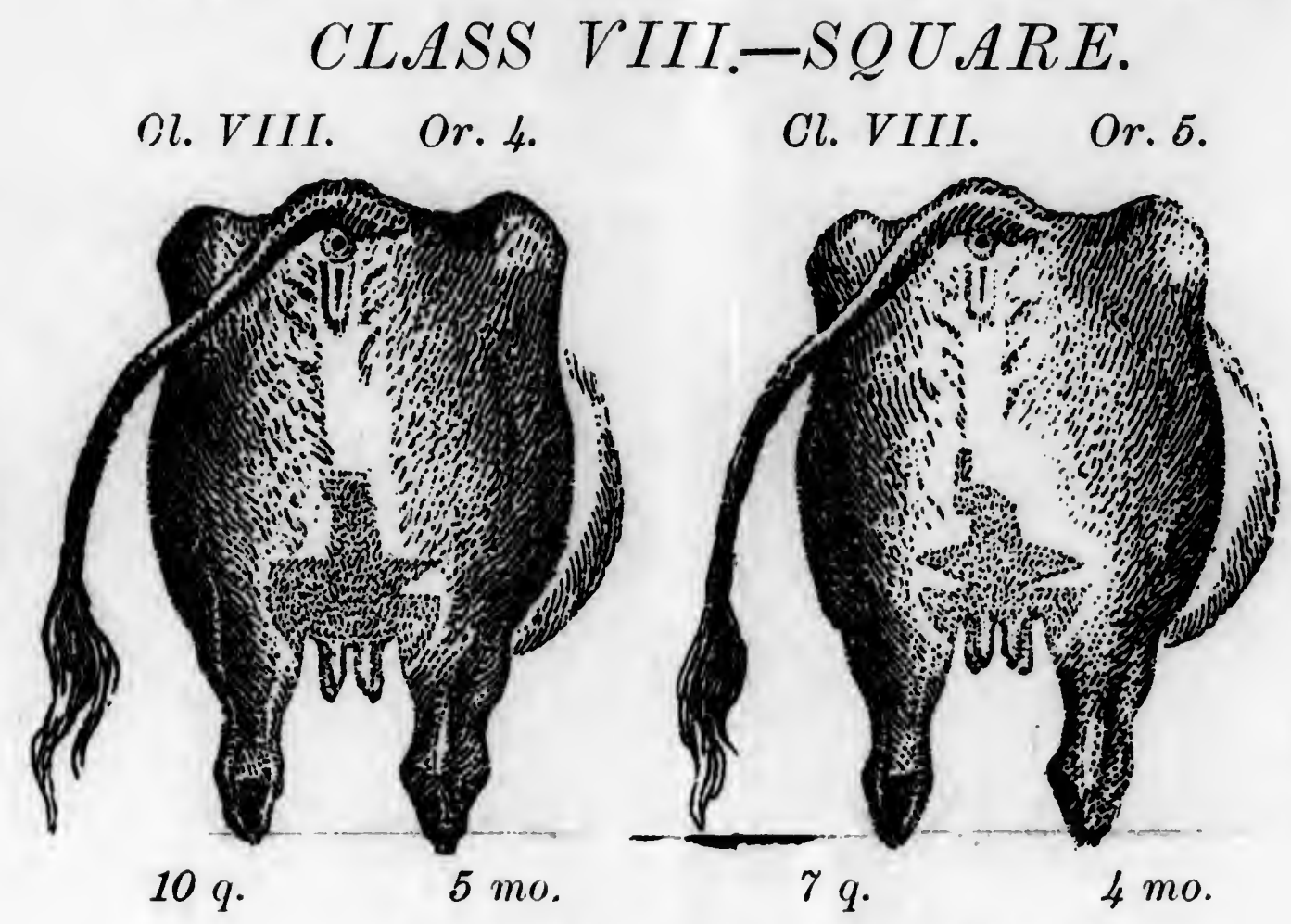
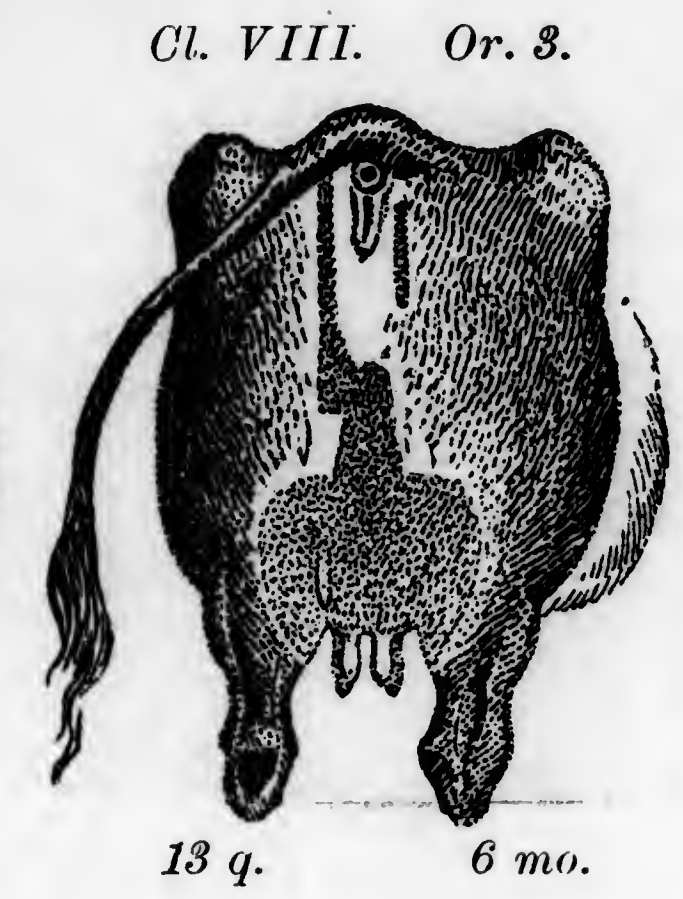
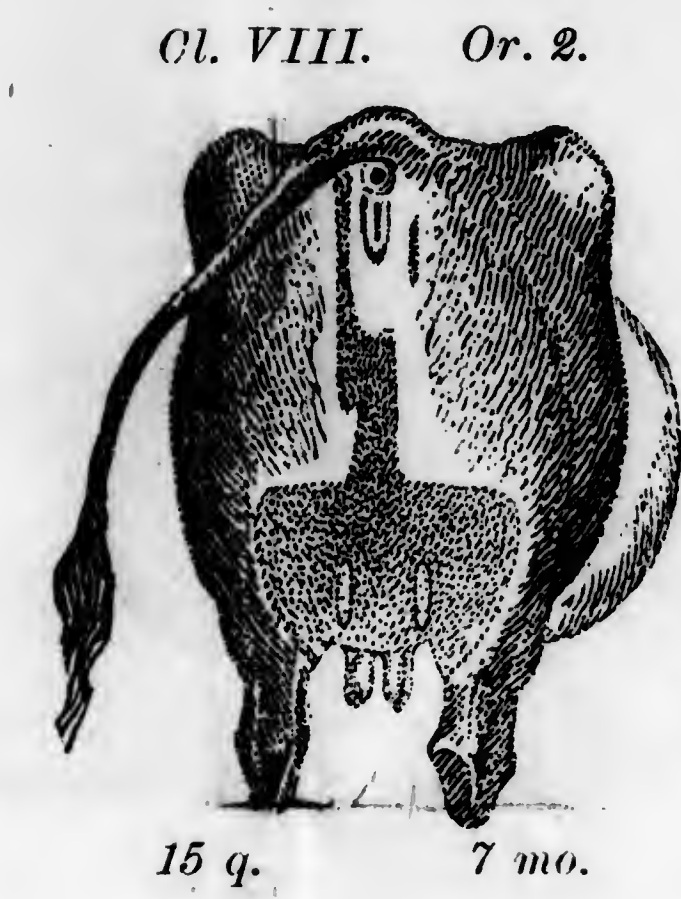
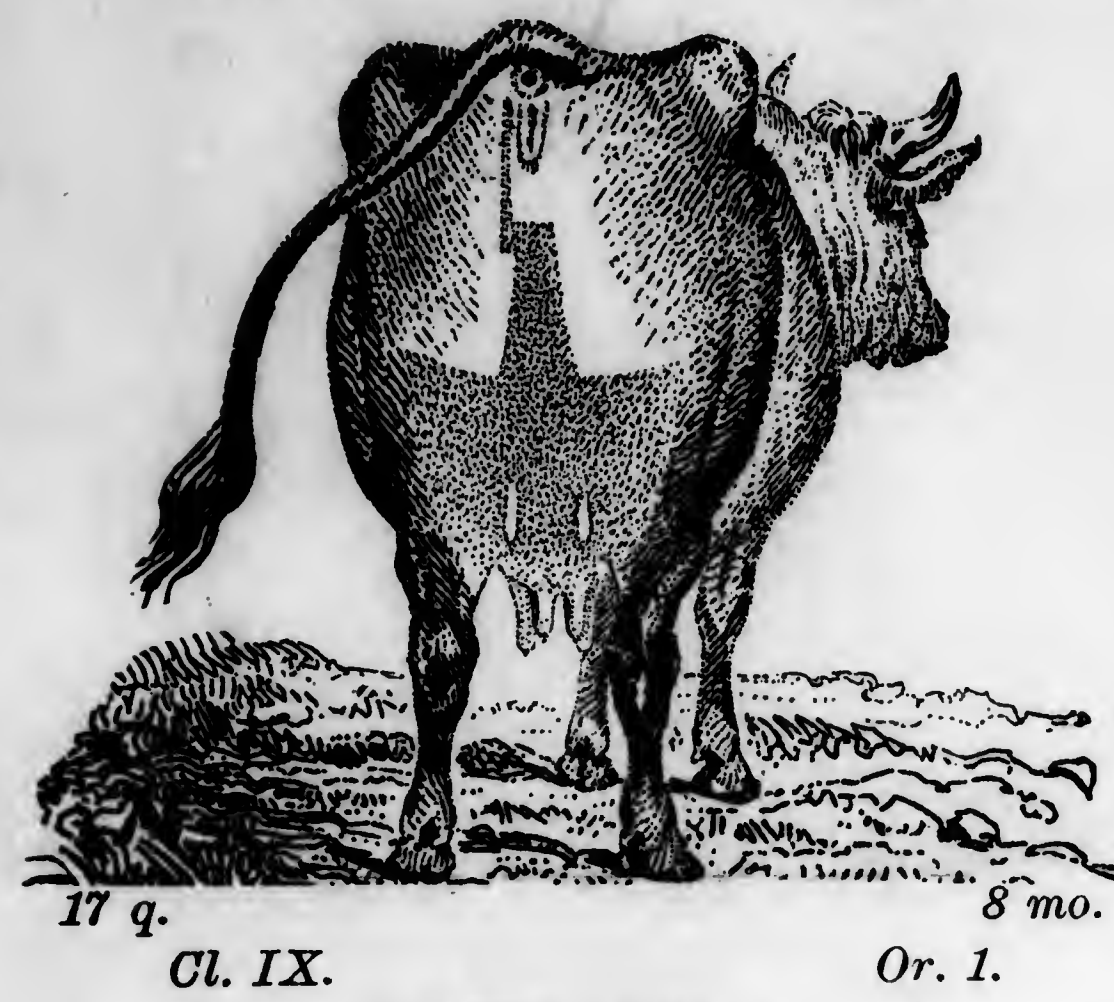
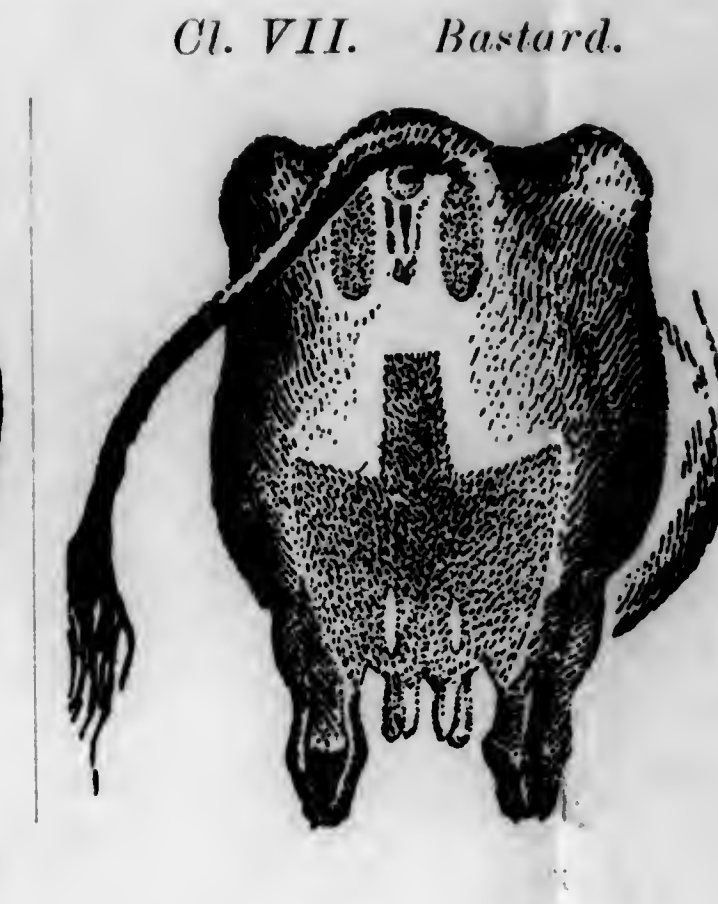
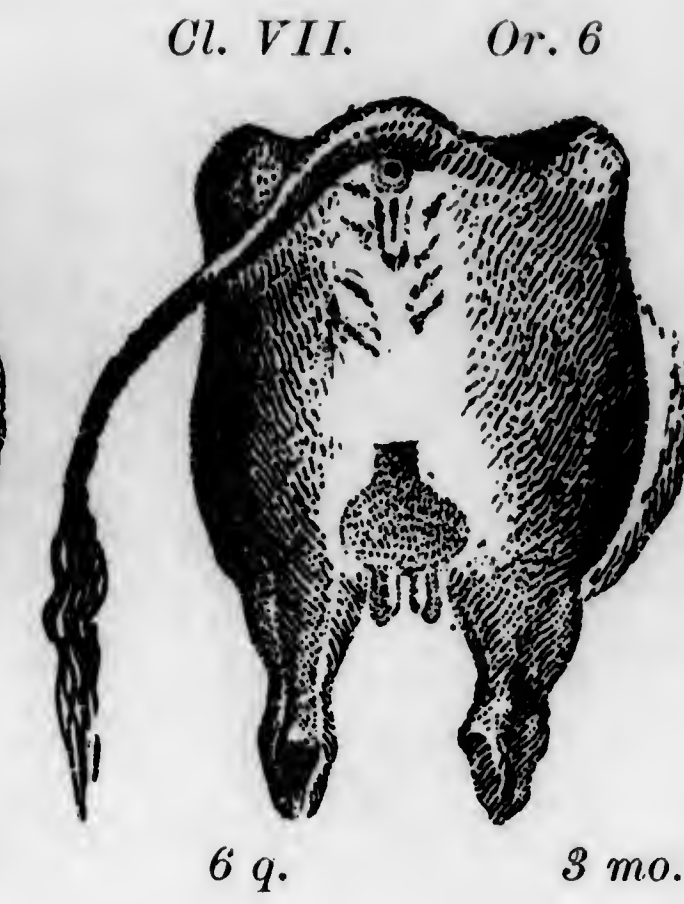
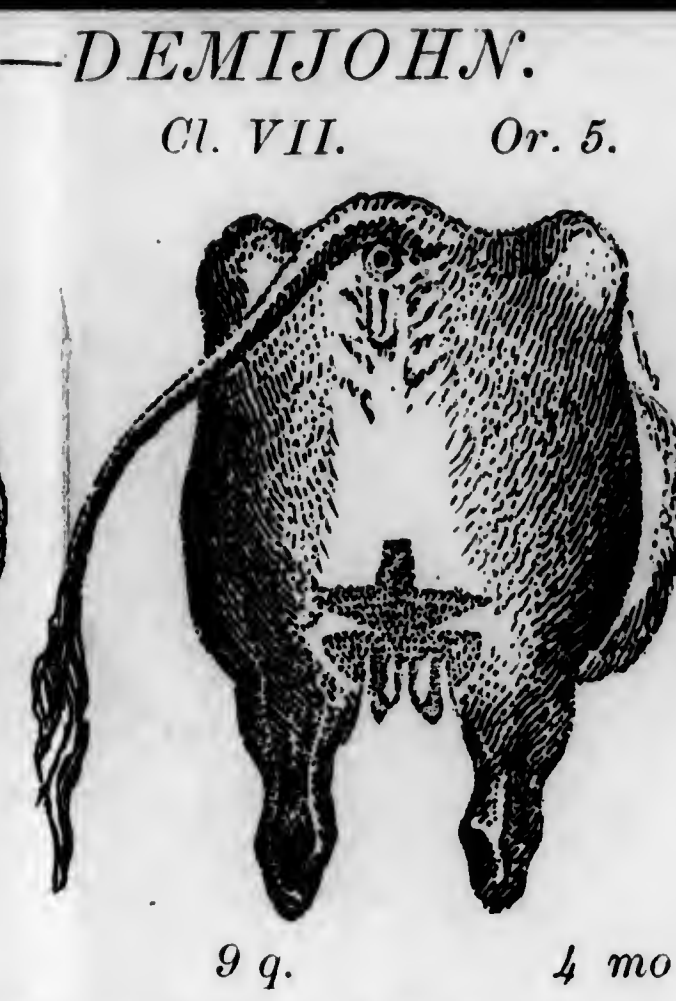
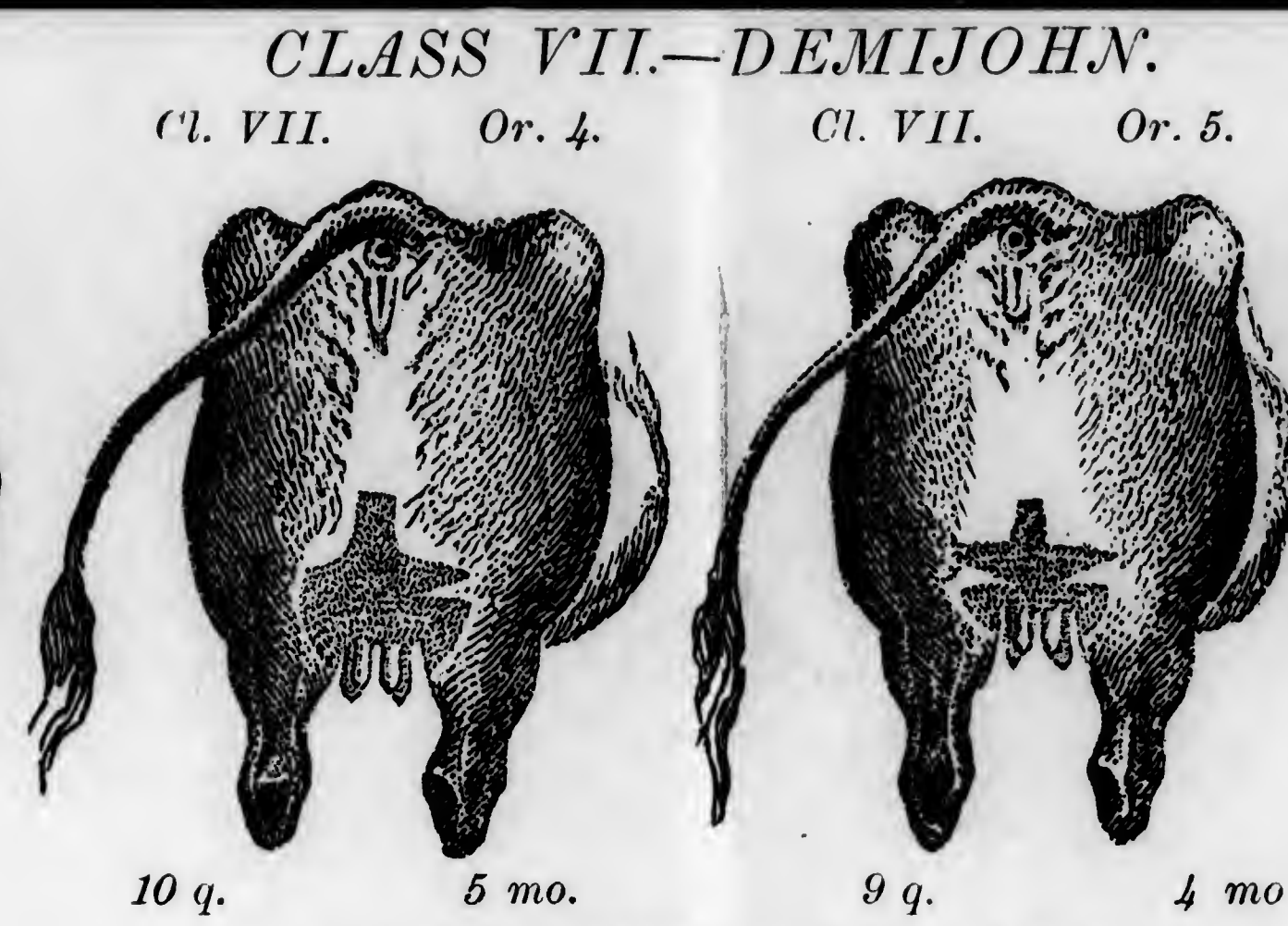
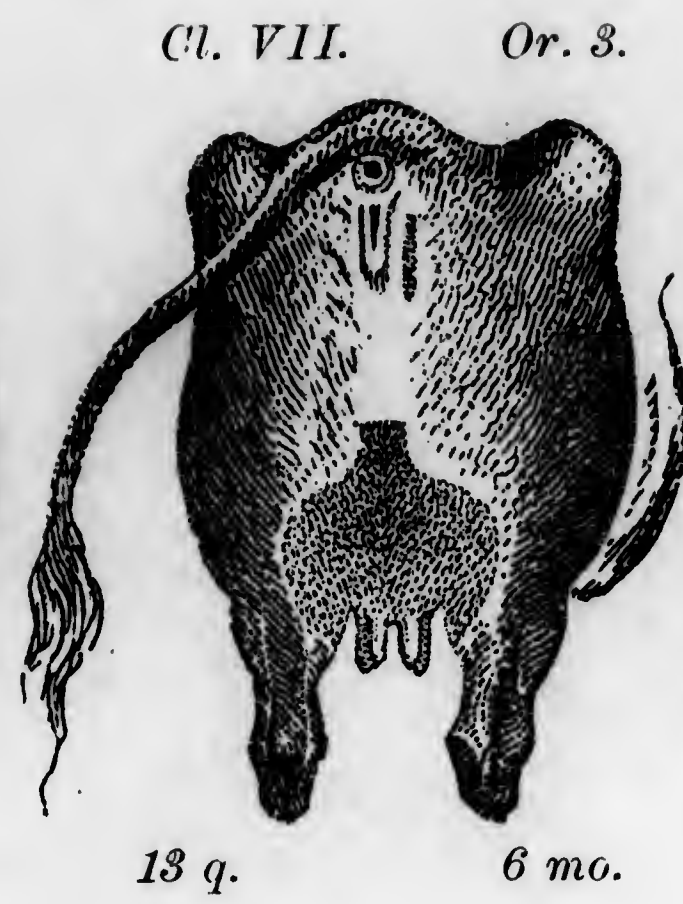
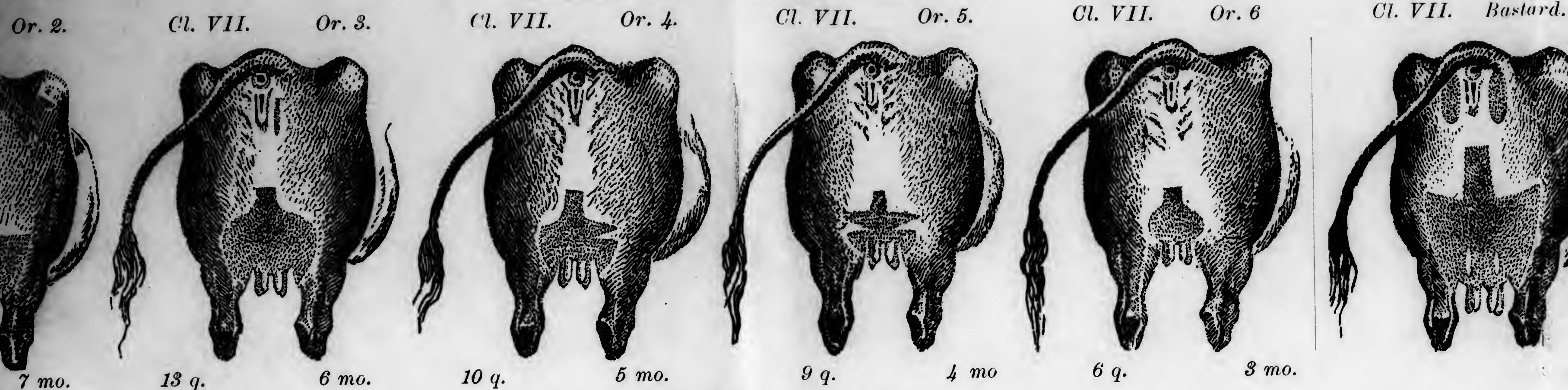


CHART OF THE GUENON SYSTEM OF SELECTING DAIRY STOCK FOR MILKING AND

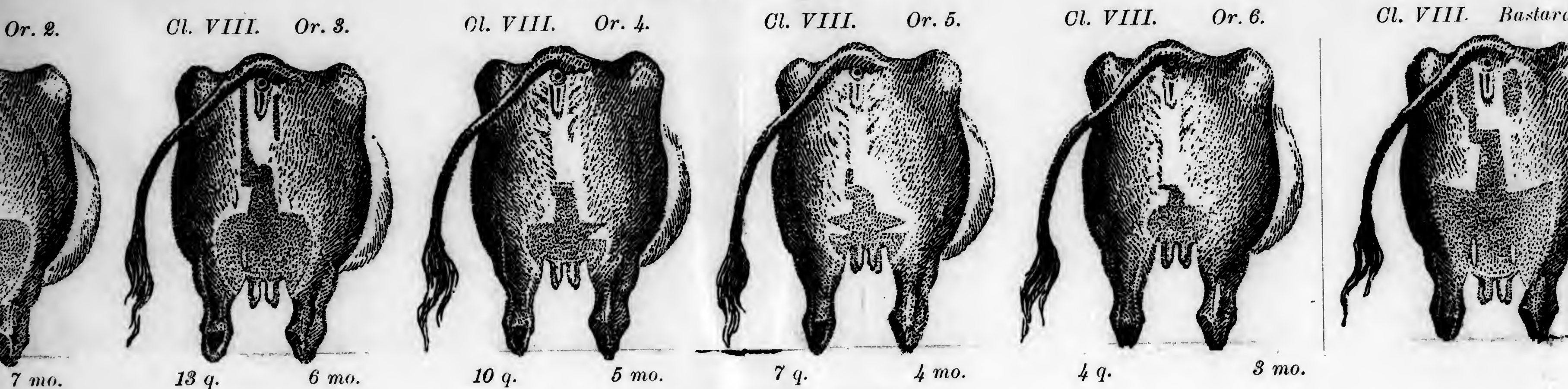
To Accompany the Report of George Blight, Chalkley Harvey, and Willis P. Hazard, of the Pennsylvania Commission, appointed by His Excellency Gov. Hartranft, State Board of Agriculture, 1878.

7 mo. 14 q. 6 mo. 10 q. 5 mo. 7 q. 4 mo. 4 q. 5 mo.

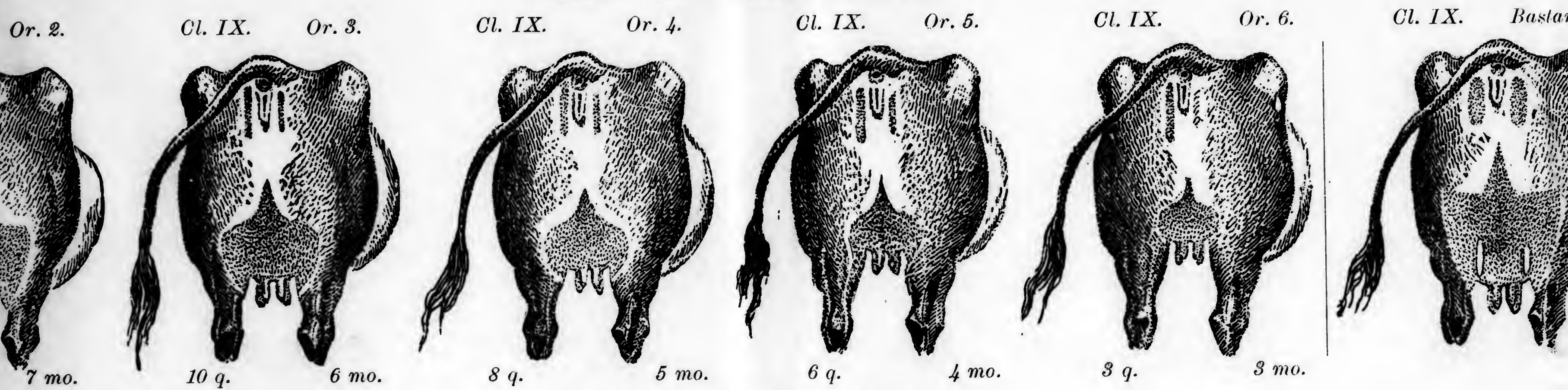
CLASS VII.—DEMIJOHN.



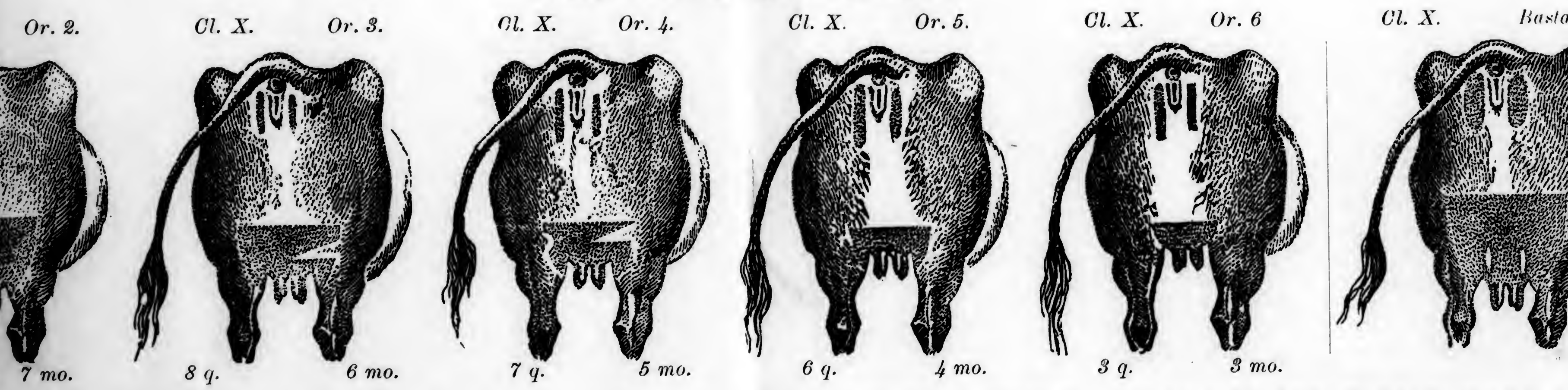
CLASS VIII.—SQUARE.



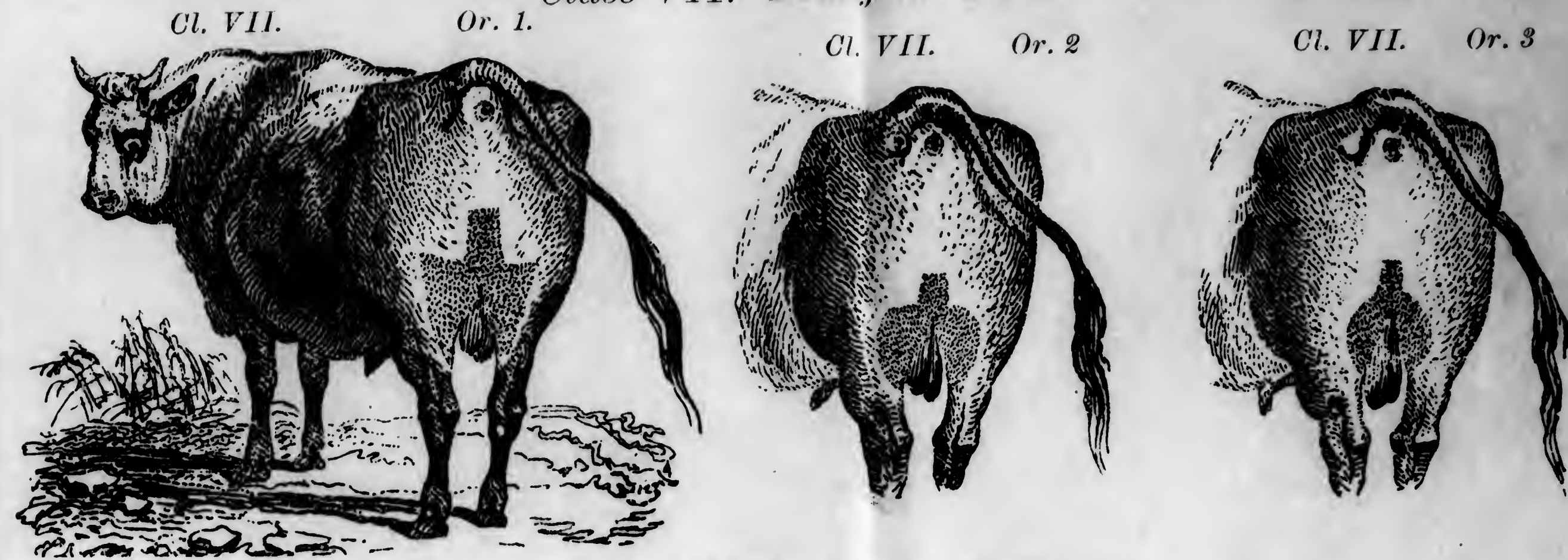
CLASS IX.—LIMOUSINE.



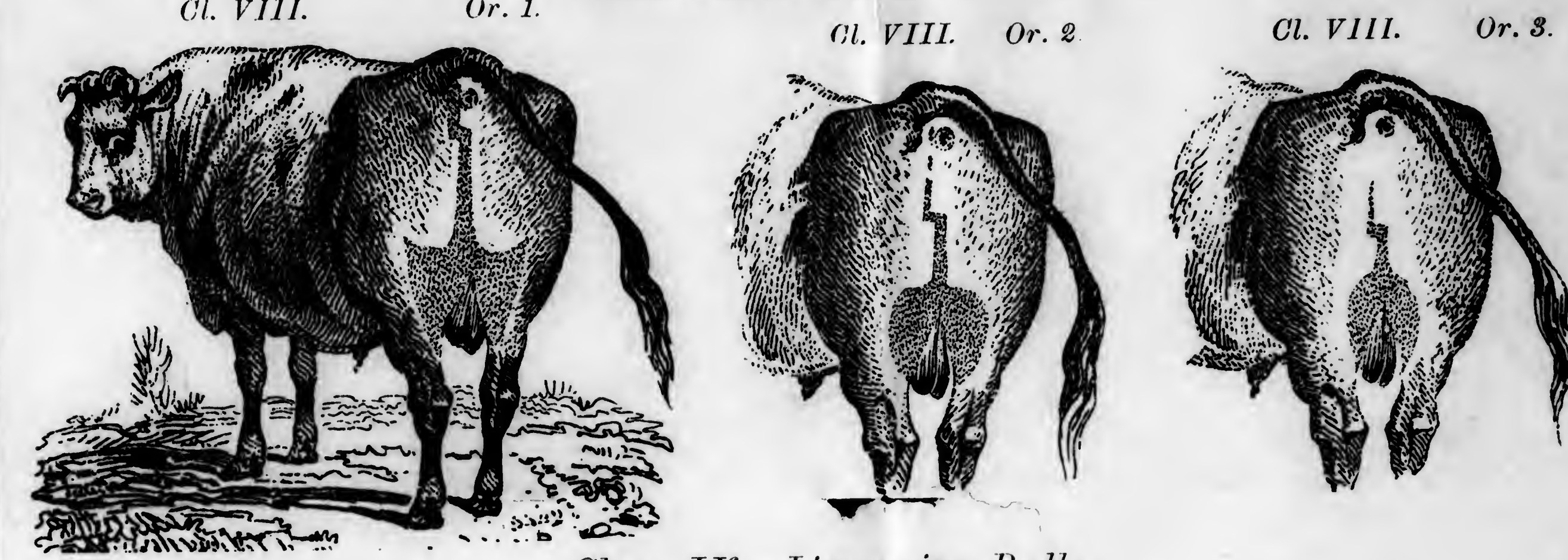
CLASS X.—HORIZONTAL.



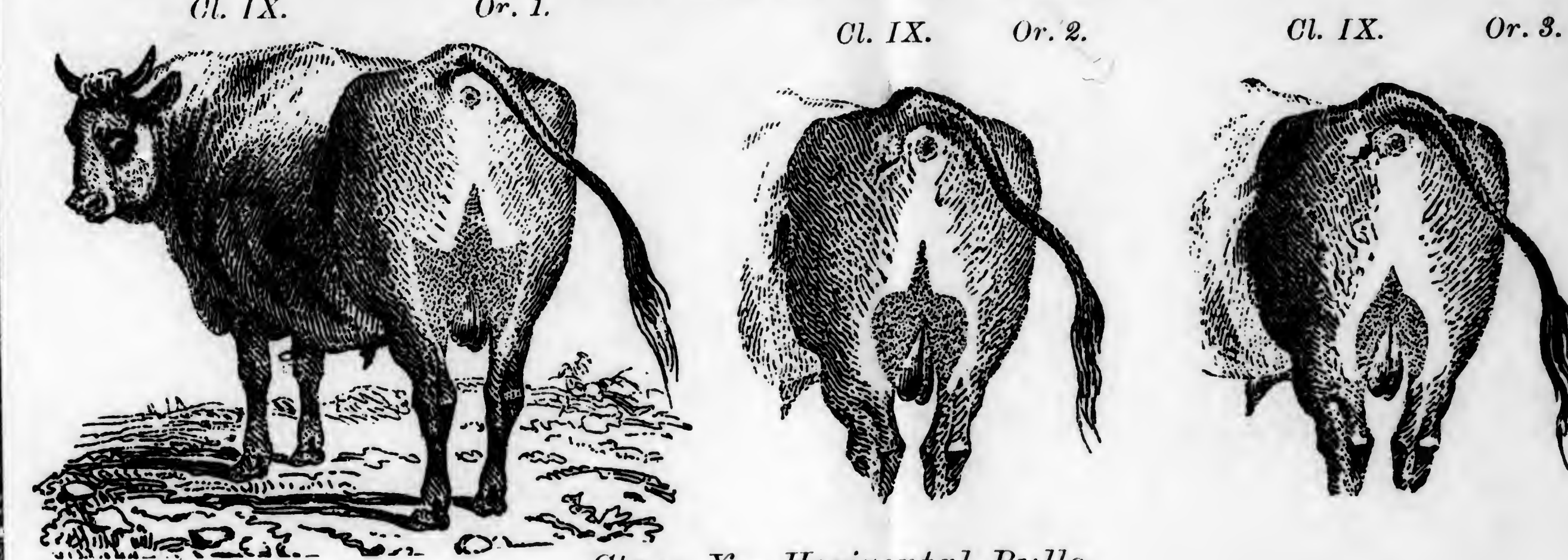
Class VII.—Demi-John Bulls.



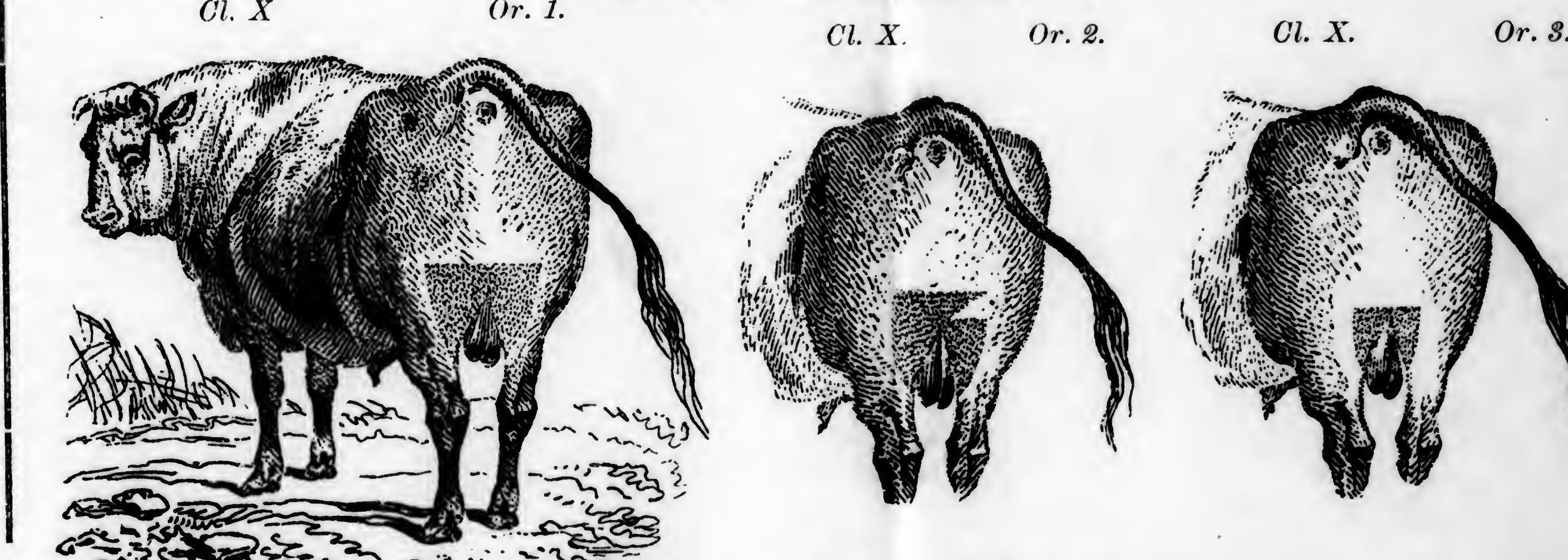
Class VIII.—Square Bulls.



Class IX.—Limousine Bulls.



Class X.—Horizontal Bulls.



THE GUENON SYSTEM OF SELECTING DAIRY STOCK FOR MILKING AND BREEDING;

Blight, Chalkley Harvey, and Willis P. Hazard. of the Pennsylvania Commission, appointed by His Excellency Gov. Hartranft, as President of the Pennsylvania State Board of Agriculture, 1878.

(ACCOMPANYING REPORT ENTITLED "AGRICULTURE OF PENNSYLVANIA," 1878.)

REDUCTION
CHANGE

10 X TO 20 X

GUENON CLASSIFICATION OF ESCUTOCHONS.

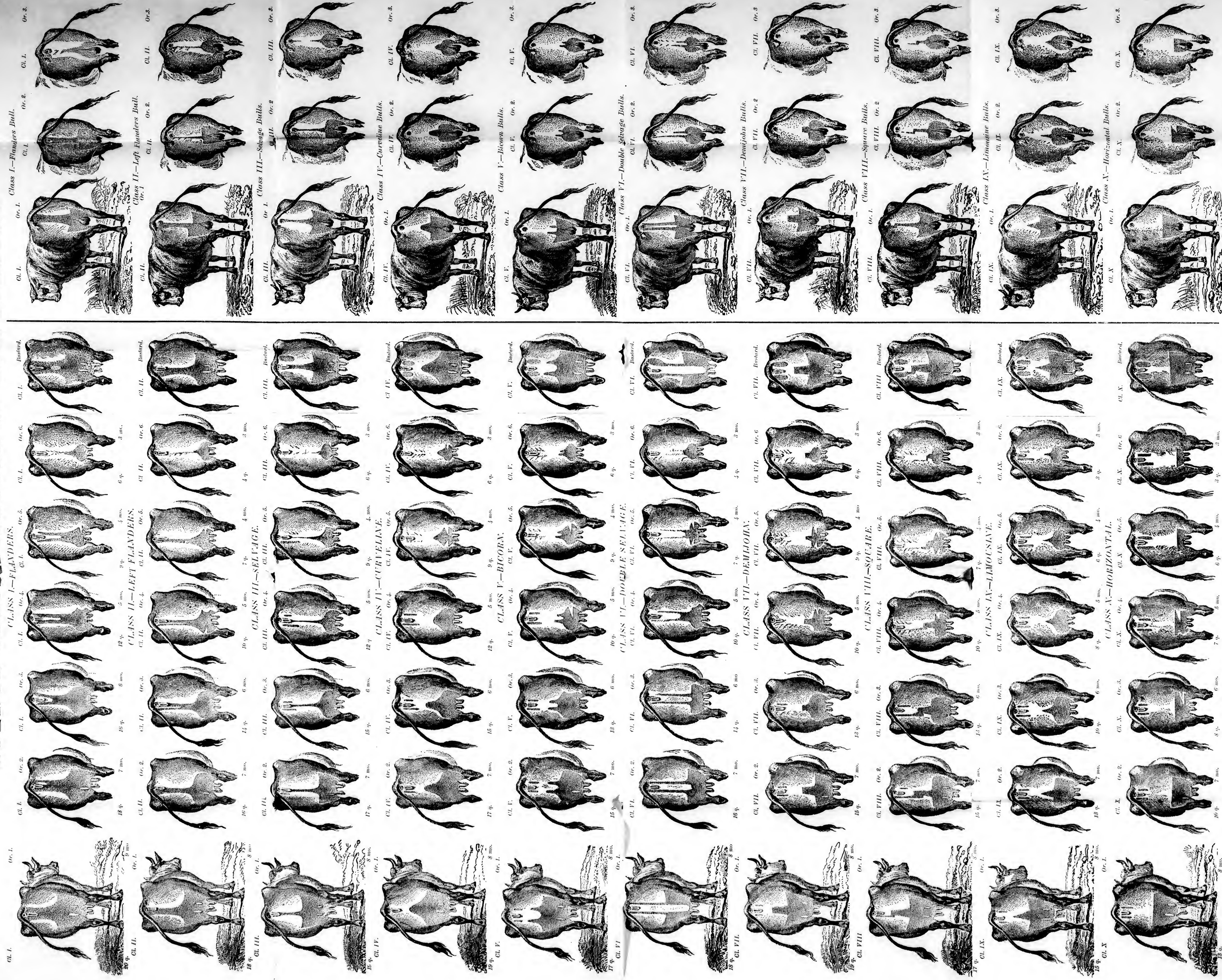
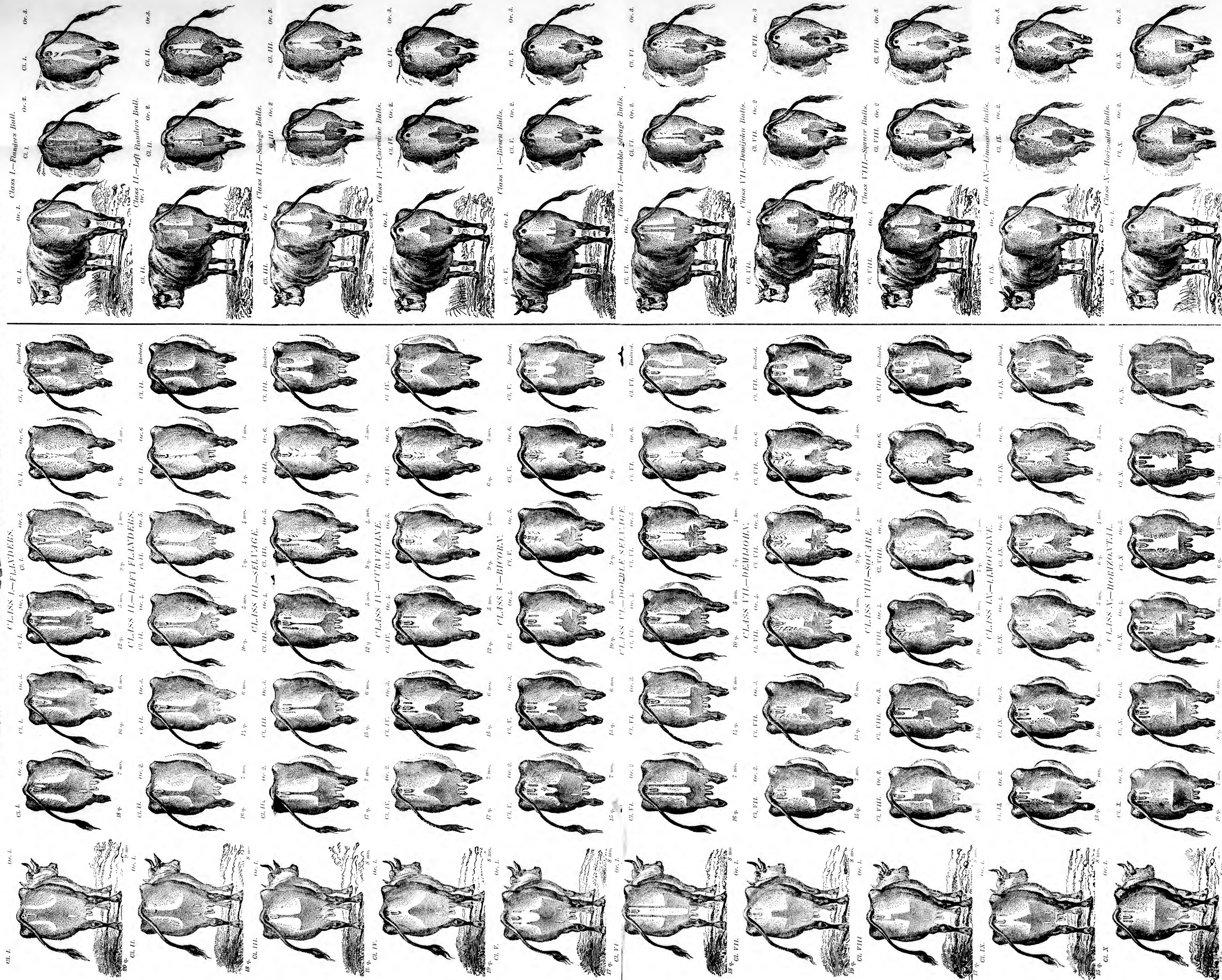


CHART OF THE GUENON SYSTEM OF SELECTING DAIRY STOCK FOR MILKING AND BREEDING.
 To Accompany the Report of George English, Chaffey Harvey, and Willis P. Hazard, of the Pennsylvania Commission, appointed by His Excellency Gov. Hartranft, as President of the Pennsylvania State Board of Agriculture, 1878.

GUENON CLASSIFICATION OF ESCUTOCHONS.



GUENON SYSTEM OF SELECTING DAILY STOCK FOR BREEDING AND BREEDING
 To Accompany the Report of George Light, Charles J. H. v. v. and Willis F. Hazard of the Pennsylvania Commission, appointed by the Executive of the Pennsylvania State, 1878.

**End of
Title**